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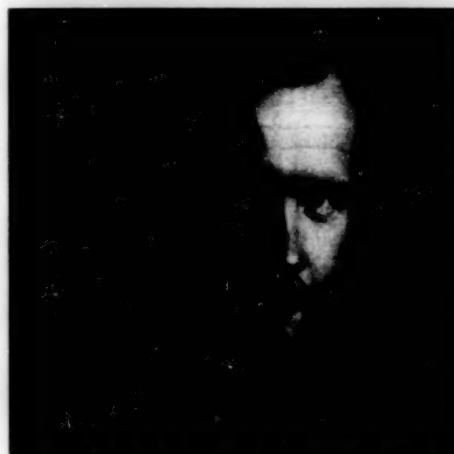
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COVER

Twenty-two years ago when he first moved to Washington, DC, Bill Reeves followed the advice of a friend and made the short drive to Great Falls. He fell in love with the place. Thus, it was only natural that about five years ago when he began to pursue photography more seriously, his subject became Great Falls. Says this month's cover photographer, "Great Falls was number one on my list. It contains magic, as strong now as it was my first day there. It pulls me back time after time, looking for pieces of its natural eloquence."



STAFF

Mary Maruca — Editor
Ricardo Lewis — Art & Production

ADVISORS

George J. Berklacy — Associate Publisher
Duncan Morrow — Executive Editor
Theresa Wood — Executive Director, E&AA
Naomi Hunt — Alumni Editor

Gene Hester — Issue Consultant
Abby Miller — Issue Consultant

Editorial Offices — 202/208-6843

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SOLID SCIENCE II

I know it might be considered "bad form" to quote oneself, but in the September 1989 *Courier* (exactly three years ago), in my column titled "Solid Science," I made a commitment to improve the scientific capabilities of the National Park Service. I pledged to make it "a major thrust that I plan to emphasize as Director." Now, in light of the Vail Agenda and the recently released report on "Science and the National Parks," I want to reiterate my commitment to science, examine our progress, and take a look at where we need to go from here.

As you may know, last month the National Research Council of the National Academy of Sciences released its report, "Science and the National Parks." The report contained a number of significant recommendations summarized in this issue, but I'd like to take this opportunity to make a few comments on some of them.

Legislative Mandate for Research. The Council has recommended that NPS seek an explicit legislative mandate for research. Such a mandate is not really required in a legal sense—we have authority to conduct research to address management needs. However, a distinct legislative mandate could clarify the importance and priority of research, demonstrate our commitment to research, and increase the visibility and significance of NPS research both inside and outside the organization.

Reorganization of Research Program. The Council advocates the reestablishment of the position of Chief Scientist reporting to the Director; supervision of scientists by scientists (scientists at the park level reporting to either a regional chief scientists or CPSU leader, all receiving technical direction from the Chief Scientist); a separate line item budget for research (with an increase to support long-term inventories and monitoring); and the creation of an external, high-level science advisory board. These recommendations are aimed at increasing the funding, autonomy, and credibility of the NPS science program. They deserve careful consideration. There are some with strong opinions, one way or another, about the proper role of science and how it should fit in with the daily management of the Service. We all can agree on the importance of science; now we must get on with the business of figuring out how to integrate our efforts so the parks are best served.

Parks for Science. The Council recognized that parks are unique places to conduct research, including some types of research not directly related to park management needs. It recommended that the Service modify its policies and strengthen its support for using parks for research. The present work on global climate change is an example of what we are already doing in this important area. Such research is conducted in national parks because parks are some of the least disturbed sites in the nation and assured of continued protection. Thus they make excellent locations for monitoring broad-scale changes over time. While we want to encourage and expand park use for appropriate and compatible research, we also must take into account the degree of resource disturbance and visitor disruption that would be acceptable.

I do want to enter a note of caution. The NPS has long had the honor of being the nation's most well liked federal agency. If, under the program of Parks for Science, we get pulled into the polarized fights that characterize widely divided environmental extremes, we might well jeopardize our high level of public support.

This thought was brought to my attention in recent meetings with the leadership of the Canadian parks. They also have an interest in increasing



their scientific capability but have seen a definite lack of support for science in the parks from environmental and conservation groups. Apparently the concern is over the amount of equipment and supporting infrastructure that might be needed inside park boundaries to support a science program. These concerns are worth our noting as we consider the recommendations.

While we have anxiously awaited the National Research Council's report, we have not been standing still in our efforts to improve science in the Service. I am proud to report that over the last three years we have made significant progress. Natural resources funding has increased 45 percent to \$87 million, with specific increases in important areas. For example:

- Funding for inventory and monitoring has tripled to \$1.9 million and has quadrupled for geographic information systems to almost \$2.1 million.
- Regional research program funding has increased 53 percent to almost \$17 million, and the total number of research scientists employed by NPS has increased 44 percent, from 78 to 112.
- Natural Resources Preservation Program funds have increased 39 percentage to \$9.7 million and funding for water resource studies has increased 85 percentage to \$5.6 million.
- A global climate change research program has been initiated and is now funded at \$2.6 million and a oil spill natural resource damage assessment program was initiated at almost \$1 million.

Also, the fiscal year 1993 budget request currently being considered by Congress requests an additional \$10 million for research and resources management in targeted parks and \$1 million for global change research.

I believe that, particularly in these tight economic times, this is a good record; but it is also just a start. As the Council report laments, essentially the same recommendations have been made by various groups over the last 30 years. The fact that they have not been more fully adopted is probably an indication of the difficult decisions and potentially painful organizational actions that are necessary. And, clearly there are significant funding considerations.

Nonetheless, I would describe the current management of the NPS as a receptive audience for the valuable recommendations the Council has made. All the recommendations deserve thorough consideration, and Dr. Hester, Associate Director for Natural Resources, has assembled a group that includes regional directors, superintendents, scientists and others meeting later this month to examine the options for implementing them.

I remain personally committed to the principle that good management decisions must be backed by a solid science program. Such a program will give the Park Service the professional capability it needs to address the complex problems inherent in the protection and preservation of park resources and values. I look forward to hearing from Dr. Hester and his group so we can begin taking the next steps to achieve the level of solid science that our stewardship responsibilities demand.

James M. Ridenour

FROM THE EDITOR

"We used to climb a little hill at the end of the day, all work done, and look out over the land and just feel good to be alive." A Havasupai named Lemuel Paya spoke these words about a landscape alien to me, a long-time traveller through eastern climates. Yet the joy he must have taken in that little hill with its cherished vista is the same I feel for the trees and wildflowers closer to home. It is a response, I think, that comes from having lived peacefully among these other occupants of the planet, of having come to consider them as much a part of one's own home as the strong walls that offer safety at night.

What does it mean to form this kind of relationship? How does it evolve? First, I think, it grows, like most true friendships do, out of a long and trusted acquaintance. Lemuel Paya must have known that the light on the land at the end of day would look different each time he climbed to the top of his hill, but not so different that he would be faced at the end of the climb with radical surprise. He had spent many evenings with this view. He knew what to expect.

But knowing what to expect sometimes produces restlessness, a desire for change, and, certainly, many urban environments have grown up as a result. To stop simply at comfortable expectation is not enough. Respect is needed—respect that may not always show itself in an excess of words but in quieter responses also, oftentimes in unutterable and secret ways. At the Casa Grande ruins, a visitor speaking more to himself than to those around him marveled, "Imagine how they must have lived here. Imagine the commitment they must have had to this place." On him respectful awareness had dawned of the inestimable value of our ties to the land where, harsh or easy, life continues to evolve, shaped by climate, by geography, and by occupants other than ourselves.

Equanimity—balance—providing equal needed space for whatever form those other occupants take is yet another element of the relationship. To use everything up is not to give others their rightful chance, though of course this pattern plays itself out time after time in overfished waters, overharvested game, overdeveloped land. To climb to the crest of a hill and look out with contentment usually assumes some personal investment in the view—some evidence of work done with one's own hands—but not too much, not enough to disrupt the native

communities having equal right to live there—sagueros if the hill happens to be in the southwest, mixed hardwoods if the valley is located in Virginia.

And what about curiosity? That's part of it also, because curiosity is what draws a climber to the top of the same hill over and over again. It's what causes him or her to look out, studying the details, just in case the view has managed to change. Curiosity promotes a deeper knowledge of the intricately complex personality of a place. It promotes questions, and questions create the kind of climate in which answers can be found.

The recent publication of the National Academy of Sciences report on the parks may not have answered every NPS question about the state of scientific research throughout the system but it does provide a sound jumping-off point, a way to shed light on a few of the issues that curiosity has raised. Coincident with that report, this month's issue of *Courier* attempts to illustrate the variety of questions and techniques through which the Service is developing a sounder relationship with the natural resources it has been charged to protect. James Lovelock begins this inquiry, appropriately enough, where all such inquiries should begin, with respect, the primary reason for a climb of any sort: "...national parks are places of spiritual refreshment deserving as much respect as we in Europe offer to our cathedrals." Dick Sellars follows with an explanation of how we arrived at the scientific stance we take today and why it took so long to get there. Long-time researcher Rolf Peterson discusses the value of on-going projects which document change, and Big Bend NP Superintendent Rob Amberger presents a manager's perspective. There are other articles also, which deal with the evolving role of natural resource management, articles about successful park programs, the importance of interpretation and the contributions that operations make.

The results of research may be subtle or not, may have instant application or application in a future time. But whatever the work accomplishes and whenever it is used, it helps us, ideally, to not take the hill for granted, to understand its rightful place within the larger picture, for, certainly, understanding is the point toward which curiosity moves; it is the fulfillment of curiosity. With understanding, the climb up the hill gains purpose. Even if we choose momentarily to subordinate what we have learned to the emotional wallop provided by the view at the

top, we still carry that knowledge with us.

Hanging out a truck window, awed by the night sky, a park visitor—perhaps a present time Lemuel Paya—simply exclaimed, "God, I love this country." The entire history of why, which was the knowledge he carried with him, remained unspoken, unneeded at such a time.

LEGISLATIVE UPDATE

During the month of July, members of Congress introduced 18 park bills and took action on the following legislation affecting the National Park Service.

On July 10, the President signed into law S. 1254, a bill increasing the authorized acreage limit for Assateague Island NS (MD). The legislation amends the Act of September 21, 1965, which established the seashore; allows the NPS to acquire up to 112 acres in Worcester County; clarifies the provision for transfer of federal property from one federal agency to another; authorizes the Secretary to accept the donation of a scenic easement for that portion of the Woodcock property; clarifies the land exchange mechanism for the seashore; directs the Secretary to enter into cooperative agreements with local, state and federal agencies, as well as with educational institutions and nonprofit entities to coordinate research designed to maximize protection for the seashore's natural and cultural resources; and authorizes the Secretary to provide technical assistance to local, state, and federal agencies and to educational institutions and nonprofit entities (P.L. 102-320).

The Senate passed S. 2827, to amend the John F. Kennedy Center Act, authorizing appropriations for 1993 through 1997; H.R. 2926, amended, Jefferson National Expansion Memorial (MO), East Saint Louis funding; H.R. 479, California NHT and Pony Express NHT, amending NTSA; S. 2321, increasing authorization for the War in the Pacific NHP, (Guam) and American Memorial Park (Saipan); S. 225, amended, to expand the boundaries of Fredericksburg and Spotsylvania County Battlefields Memorial NMP (VA); S. 2563, to provide for the rehabilitation of historic structures within the Sandy Hook Unit of Gateway NRA (NJ); and HR 1216, amended, Indiana Dunes NL Access and Enhancement Act.

The House passed H.R. 5488, amended, Treasury Department Appropriations, for fiscal year ending September 30, 1993 (Shenan-

doah NP); H.R. 5126, Civil War Battlefield Coins (anniversary); H.R. 1628, authorizing construction of the Thomas Paine monument (DC); H.R. 5503, amended, making appropriations for the Department of the Interior fiscal year ending September 30, 1993; H.R. 3898, amended, Harry S Truman NHS, adding the Truman Farm House (MO); H.R. 4085, amended, Cape Cod NS (MA), amending the Act of August 7, 1961; S. 2079, amended, establishing the Marsh-Billings NHP (VT); H.R. 5291, amended, providing temporary use of certain lands in South Gate, CA; H.R. 4382, amended, modifying the boundaries of New River Gorge NR, Gauley River NRA, and Bluestone NSR (WV); H.R. 4370, amended, protecting the Bodie Bowl area (CA); H.R. 3157, amended, providing settlement of certain claims under the Alaska Native Claims Settlement Act; S. 959, amended, Thomas Jefferson Commemoration Commission Act (this bill passed in lieu of H.R. 5056); and H.J. Res. 271, amended, authorizing the Go for Broker National Veterans Association to establish a memorial to Japanese American Veterans (DC).

ANNOUNCEMENTS

The 60th anniversary of Death Valley NM will be commemorated February 12-14, 1993. As part of this commemoration, the park would like to invite all former Death Valley employees to attend a reunion. The reunion would provide an opportunity to meet old friends, see how the park has changed, and compare notes with the present park staff. Also included will be a reunion of the Civilian Conservation Corps employees who worked in Death Valley, several guest speakers, special field trips and guided walks, special exhibits and many other events.

Visits to Death Valley during this holiday weekend are expected to be heavy. The Furnace Creek Campground does accept reservations eight weeks in advance through Mistix by calling 1-800-365-2267. Other Monument campgrounds and private campgrounds at Furnace Creek and Stovepipe Wells are available on a first come, first served basis. Motel reservations should be made as early as possible. The following telephone numbers may be helpful: Furnace Creek Inn and Ranch—619/786-2345; Stovepipe Wells—619/786-2387. For more information about the reunion contact Glenn Gossard at Monument headquarters (619/786-2331), or Paul Zaenger at Scotty's Castle (619/786-2392).

How many NPSers do you know who grew up in the national parks? That's right—how many were *kids* in the parks or raised *kids* in the parks? Tom Durant, who maintains the NPS Historic Photograph Collection, is looking for pictures of NPS children—*kid* pictures from photo albums, old trunks, or wherever they're tucked away. If you're willing to share, he would like to borrow your pictures to copy them for the collection. Contact him at the Office of Library, Archives and Graphics Research, Harpers Ferry Center, Harpers Ferry, WV 25425, or reach him by phone at 304/535-6494.

From May 12-15, 1993, the Canadian Society of Landscape Architects will join forces with ICOMOS and the Quebec Association of Landscape Architects in Montreal to host an International Symposium on Conservation of Urban Squares and Parks. Proposals for papers on relevant subjects such as park history, conservation philosophy, and environmental issues should be received by October 15. Send abstracts and requests for information to Symposium Intervention-Conservation, Secretariat: Coplanor Congres Inc., 511 Place d'Armes, #600, Montreal, Qc Canada H2Y 2W7.

Join NPS Chief Historian Ed Bearss for a tour of the Battle of Chickamauga at the 14th annual Confederate Historical Institute April 8-11, 1993, in Chattanooga, TN. For details write CHI/Chickamauga, Box 7388, Little Rock, AR 72217.

Recycling Realities: Facts, Myths and Choices is available by writing to Keep America Beautiful, Inc., 9 W. Broad Street, Stamford, CT 06902. The booklet includes facts about recycling specific materials, including glass, paper, aluminum, steel, plastic, oil, tires and batteries.

A reminder that nominations for the Harold L. Peterson Award need to be submitted by October 15 to ENP&MA, Peterson Award Committee, 446 North Lane, Conshohocken, PA 19428. The recipient of the award will be announced by ENP&MA in late January.

BOOKS

"This book is more than just a park guide; it is a celebration of the many attributes that combine to make America the richly diverse country it is today." So begins the

acknowledgement that accompanies Southwest Parks & Monuments Association's most recent publication, *The Guide to National Parks of the Southwest*. It says a great deal about the thought that went into this book. In the beauty of the form, the photographs and the text, much that is finely detailed and grandly overpowering, intimate and remote is given shape. Author Nicky Leach introduces the guide with the simple words from Edward Abbey's *Desert Solitaire*, "This is the most beautiful place on earth." The rest of the guidebook proves it. The publication retails for \$9.95.

Also from Southwest Parks & Monuments Association are two additions to their park series: *Aztec Ruins National Monument* by Scott Thybony and *Gila Cliff Dwellings National Monument* by Laurence Parent. Both publications retail for \$2.95. Both are informative additions to any collection of publications on Southwest parks.

THE PUBLIC SPEAKS

It was my pleasure to serve as a Volunteer in the Park at Yukon-Charley Rivers National Preserve, Eagle, Alaska. I have always loved our country's parks and appreciated the staffs, but until working at Yukon-Charley I had no idea of the scope of the park's activities nor the high level of commitment of the staff. The opportunity to work with the staff in this magnificent preserve was an extraordinary experience for me—one which greatly enriched me personally, and prepared me to share so much about this beautiful area and this staff's careers with the elementary school students I teach.

As soon as I arrived in Eagle I was greeted by my supervisor, **Cary Brown**, and his wife, Debbie. They made me feel welcome and were helpful in acclimating me (from an metropolitan life style) to this bush community... Working daily in the office helping to organize the library, I learned the vast dimension of the staff's responsibilities. It became clear how complex the issues involved in "preserving and protecting" actually are. Yet this staff meets each day with a positive attitude, enthusiasm, and a spirit of pure enjoyment for the work...

Being a VIP for Yukon-Charley has been an experience of a life time. I can not speak highly enough of the Preserve or the staff I encountered.

Marianne McKinney



FOR LOVE OF EARTH

In recent years recognition has grown among political and spiritual leaders that we all share responsibility for the looming problems of the global environment. In my own country, former Prime Minister Thatcher gave the lead four years ago when she addressed our most senior scientific society, the Royal Society, and predicted that by the 90s problems of the environment would usurp the political agenda. The momentous events in Eastern Europe and the Soviet Union and the war in the Middle East have turned our minds temporarily from her prediction. I cannot help wondering to what extent they are in fact a part of the prophesy. Incompetent Eastern Bloc regimes are now revealed as culpable for the worst environmental defilement of the industrialized world. It may have been this environmental corruption that set on course the political climate shift that melted the iceberg monolith of Communism. Our rejection of the evil regime of Iraq will be sustained by the memory of it as the first to use environmental destruction as an act of war. Perhaps the influence of the environment is stronger than we realize. I wonder how much the great political changes in the United States of the 1930s were moved by the "Dust Bowl" event of the Midwest so well depicted in the *Grapes of Wrath*.

Do we always have to wait until the rest of the world is denied a habitat before acting? I have long felt that our bad relationship with the natural world, our slow and inadequate responses, results from the sensory deprivation caused by living in cities and suburbs. We evolved as animals totally immersed in a natural environment of which we were an inseparable part. Our intelligence and imagination that gave us dominion over the planet did not evolve as a consequence of the need to be street wise, or to pass examinations, or drive autos. We do not yet know how it evolved except that it must have enabled us to leave a local and a global environment fit for our children and our children's children for many million years.

Most of us live in cities, and for most of us the natural world is something shown on a television screen or at the local zoo or park. How on such a meagre diet can we grow to love the Earth and feel that we are a part of it? How can we develop an empathy with creation in the deafening noise of

traffic and the never ceasing beat of someone else's music. How can we feel we are of this world at all if we can't even see the stars through the glare of city lights and the haze of polluted air? Imagine a society where babies were separated according to their sex at birth and raised separately and told nothing about the existence of the others until adulthood. Sex itself would be neither natural nor easy, and loving relationships even more difficult. The fact that the Earth is more often raped than loved may come from our own unnatural separation from her in the cities.

The attraction of the city is seductive. Socrates said that nothing of interest happened outside its walls, and that was 2,000 years ago. City living corrupts; it gives a false sense of priority over environmental hazards. Most citizens, when asked, list nuclear radiation and ozone depletion as the most serious environmental hazards. They tend to ignore the consequences of greenhouse gas accumulation, agricultural excess and forest clearance. Yet in fact these less personal hazards can kill just as certainly. City life—the soap opera that never ends—reinforces and strengthens the heresy of humanism, that narcissistic belief that nothing important happens on the Earth that is not a human interest.

We expect our scientists to be objective and at the same time partial about environmentalism. This is something they cannot do. They can only be true to their calling if they provide advice consistent with the evidence before them. Sadly, the fragmentation of science is now so complete that they see the world as through the multifaceted compound eye of a fly. What should have been their objective judgement is now a compendium of different distorted views. Consider the exchange that took place a few years ago at a meeting of distinguished scientists, hosted by the United Nations, in Sao Jose dos Campos in Brazil. When asked how long it would be before the climate modellers knew the consequences of removing the humid tropical forests from the Earth, Ann Henderson-Sellers, on behalf of the modellers, replied, "Not before the forests have gone at their present rate of clearance."

If Ann Henderson-Sellers was right and if the fragmented approach of science to global problems by the separated investigations of geology, climatology, ecology and so on will not answer the urgent questions before us, then perhaps we need a pragmatic approach based on our instincts as well as what little can be told us by scientists.

Approach to Boquillas Canyon, Big Bend NP. Photo by Tom Bean.

I follow an older scientific tradition that goes back to James Hutton, the father of geology. Like him, I think of the Earth as something that behaves as if it were a vast living organism; not just a ball of rock with animals, plants and microbes travelling on it like passengers. In my view, the great forests of the tropics behave as if they were a part of the skin of the Earth and like human skin they sweat to keep us cool. Biodiversity to me is not something to be preserved as such, but, instead, is a sign of health. Look on biodiversity as resembling the blush on the fresh sweet face of a young girl, something that shows she is perturbed or surprised, but also shows her seemliness and health. The tropics are warm, humid and rainy, an ideal environment for trees, but few seem aware that the trees themselves keep it this way. The wet and cloudy tropics are not a given state of the Earth, but an environment maintained by the trees themselves. They sustain it by the shade of their canopies, by their ceaseless evaporation of vast volumes of water through their leaves and by the cloud cover that forms as the rising water vapor condenses above the forest. If the trees are felled, the rain they make ceases and the region turns to scrub or desert. Trees and rain go together as a single system; without the one there cannot be the other. Sweating is part of our personal refrigeration system. The evaporation of water from the forests is part of the cooling system of the Earth. It works because the water the trees evaporate forms clouds that reflect sunlight back to space, sunlight that would otherwise reach the ground and add its increment of heat to what appears to be an over heated planet.

Maybe you think the forests are so vast that it will take decades to clear them significantly. If you do, you could be wrong. At the present rate of clearance, an area of forest equal to that of Britain is razed annually. At this rate, in ten years time 65 percent of all the forests of the tropics will have gone. When more than 70 percent of an ecosystem goes the remainder may be unable to sustain the environment necessary for its survival. To denude the Earth of forest is like burning the skin of a human: burns affecting more than 70 percent skin area cannot be survived. This implies that in about ten years time the trees remaining uncut may begin to die anyway.

I live in one of the most densely populous nations on Earth, England, with more than 1,000 persons per square mile, yet it is still possible here at my home in Devon to see the stars at night and even our galaxy, the Milky Way. In the day time I can hear the birds and smell the Earth. To see and feel the Earth this way and to think of it as a living organism has sustained me in my belief that we need to turn our hearts and minds towards that prime environmental concern, the care and protection of the Earth itself. It is not enough merely to be concerned about people.

For this and other reasons, I rejoice in the American national parks. They are priceless for their gift of spiritual refreshment, something we badly need to restore our inner knowledge of the Earth. Such are the population pressures

here in England that we have had to fight for every inch of land set aside for national parks. Only ten miles from here is the largest of these, Dartmoor, a few hundred square miles in area, a tiny fraction of the size of the Big Bend. Yet this and our cherished coastal footpath that encompasses the greater part of our indented fractal coastline go far to keep us in touch with the world of nature.

You, in America with 25 times more land per person than we have, can afford national parks large enough to serve two purposes. To act as an untouched habitat for wild animals and plants that flourish in their own ecosystem, and also as quiet places where people can come and rebuild their links with that natural world of which they were once a part. Your national parks are places of spiritual refreshment deserving as much respect as we in Europe offer to our cathedrals. Your parks, like the one at the Big Bend, are to us in Europe the most lasting embodiment of the idea of freedom that we associate with your great nation, but they also confirm us in the belief that there is more to life on Earth than the continual addictive interaction between people in the cities.

British scientist and philosopher James E. Lovelock is the father of the Gaia Hypothesis, and the author of three books on the subject, the most recent, Gaia: The Practical Science of Planetary Medicine, published by Harmony Books in New York.

THE ROOTS OF NATIONAL PARK MANAGEMENT

EVOLVING PERCEPTIONS OF THE PARK SERVICE'S MANDATE.

The national parks were once the vanguard of nature preservation, both in the United States and throughout the world. The majestic lands set aside beginning in 1872 "for the benefit and enjoyment of the people" marked a significant departure from long-established public land policies of rampant resource consumption. In 1916, Congress created the National Park Service to oversee these special places; yet today, 76 years later, many observers see the parks as critical natural areas threatened by profound ecological degradation. That America's most precious and protected landscapes have become an environmental issue of grave concern calls into question the very goals and visions of the National Park Service founders, who secured establishment of the Park Service—but whose ideals and energetic promotion propelled park management along a course destined to collide with later environmental thinking.

ESTABLISHING A MANDATE. Early this century, the various national parks (then all located in the West) lacked central, coordinated management. They were administered by the Department of the Interior, which assigned most of this responsibility to a "chief clerk," who had other duties as well. Without an office expressly charged to manage the parks, the potential benefits of these outstanding scenic areas seemed unlikely to be realized.

To address these concerns, an aggressive campaign for a national park service began in 1910. None of the campaign's leaders (such as nationally known landscape architect Frederick Law Olmsted, Jr., son of the principal founder of American landscape architecture, or Stephen T. Mather, a borax industry executive who would later serve as first director of the National Park Service) saw the parks primarily as unaltered natural reserves where preservation would be the key concern. Such concepts were philosophically and politically improbable given the utilitarian mind-set of the early 20th century and the common understanding of parks as places for public enjoyment.

These leaders repeatedly promoted the parks not as unaltered reserves—but as the country's premier scenic areas, which should be vigorously developed to improve the people's mental and physical well-being and help the national economy. Predictably, their campaign gained strong support from



Early directors of the National Park Service Mather (left) and Albright (right) relax with newspaper editor Reynolds.

the tourism industry, especially the railroads and the fledgling automobile associations.

Following intensive lobbying and a nationwide publicity campaign, Congress passed the National Park Service Act (referred to as the Service's "Organic Act") and President Woodrow Wilson signed it into law on August 25, 1916. Central to this act, even then, was its statement of purpose for national parks. The founders believed an overriding mandate was the "essential thing" in the legislation; the parks needed a "Gibraltar," a statement of their "true and high function" in order to defend against those who would damage them. As it ap-

peared in the act, the statement declared the "fundamental purpose" of the national parks to be: "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Despite its ambiguities, especially in regard to potential conflicts between preserving the parks and opening them to public use, this mandate became the Service's touchstone—its chief point of reference for managing parks. And as "unimpaired" set the mandate's only actual standard, it became the principal criterion against which preservation and use of the national parks have been judged ever since.

A UTILITARIAN BASIS. Although the statement of purpose does contain a strong preservation mandate, the founders had little concern for strict biological preservation as it is known today. In fact, from 1910 to late 1915 (i.e., during most of the legislative campaign to establish the Park Service), the statement read that the purpose of the national parks was to promote "public recreation and public health" through use by the people—a utilitarian concept of parks closely dependent upon maintaining their scenic beauty, the basis of their high public value. But, anticipating broad public use of the parks, the founders feared that excessive and unsightly commercial development could degrade the parks and diminish their potential for "the enjoyment of future generations." Thus, in the act's final wording, while the founders sought to encourage public use, they also required that the parks be left "unimpaired" for future generations—they would control development in order to preserve, forever unimpaired, the sublime beauty, dignity, and nobility of national park landscapes.

With little thought given to leaving nature truly "unimpaired," the founders simply assumed that most natural features within national park boundaries would be preserved; and they placed their emphasis on tourism—which, at the time the act was passed, posed much less of a threat to parks than it does today. Moreover, nature seemed resilient—unlikely to be seriously harmed by park roads, trails, campgrounds, hotels, and administrative facilities. Surely, areas not visibly altered by direct human intervention would remain unimpaired.

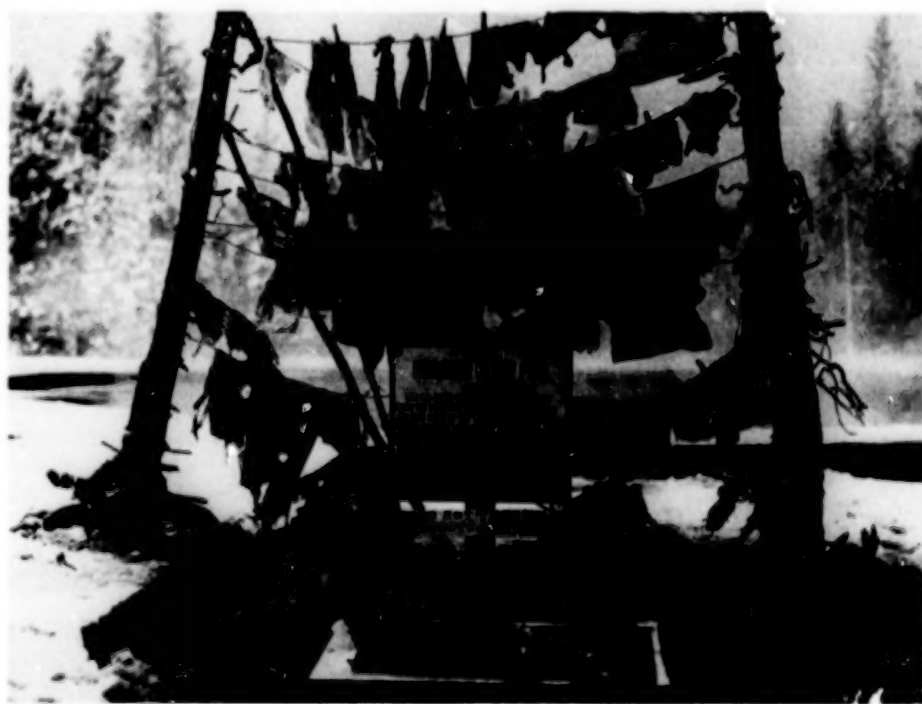
Following the statement of purpose, the Organic Act contained other stipulations affecting the management of nature in the parks. These provisions supported public use and enjoyment, and even allowed consumptive use of certain park

resources—further evidence that the founders intended "unimpaired" to mean something quite different from the strict preservation of nature. For example, the act authorized leasing in the parks for the development of tourist accommodations, thereby perpetuating the commercial tourism that had been ongoing in all parks, often predating their establishment. The minimal restrictions placed on the leases—twenty years per lease, and not to interfere with the public's free access to natural features—imposed virtually no restraints on the lessors' possibly harmful impacts on the parks.

The act also permitted native animal and plant life to be destroyed if they were "detrimental to the use" of parks. Timber could be disposed of, particularly when necessary to control insect infestations that might affect the appearance of large tracts of scenic forests. And the destruction of predatory animals could continue—already a regular means of protecting the game species more favored by the public.

The act allowed perpetuation of another activity—the grazing of livestock in all parks but Yellowstone when "not detrimental to the primary purpose" of the affected parks. The grazing provision enabled the parks, as Mather testified to Congress, to serve "different interests without difficulty"—under the Organic Act, both ranchers and tourists could use national parks.

The Organic Act contained a final provision that had great potential to affect natural resources in some parks. It reaffirmed an act passed in 1901 authorizing the Secretary of the Interior to permit rights of way in Yosemite, Sequoia, and General Grant (now Kings Canyon) National Parks for, among other things, power lines, pipelines, canals, and ditches, as well as for water plants, dams, and reservoirs "to promote irrigation or mining or quarrying, or the manufacturing or cutting of timber." Although Congress withdrew this authority in 1920, the



Tourism posed much less of a threat to parks in 1916.



Grazing was allowed in all parks but Yellowstone when not detrimental to their primary purpose.

provision demonstrated that—as with livestock grazing—public use of the national parks was intended in certain cases to extend beyond recreation and enjoyment of scenery toward strictly consumptive resource uses.

All together, these provisions permitting manipulation of native plants and animals and fostering certain consumptive uses: (1) resulted in no significant reversal of natural resource management practices begun in the parks prior to passage of the Organic Act, (2) slanted the Organic Act toward multiple use of the parks' natural resources, and (3) placed substantial qualifications upon what Congress meant when it required the parks to be left "unimpaired."

And rather than altering the direction of natural resource management in the parks, the Organic Act's immediate outcome was in administrative and political gains for the national park system. The act enabled the establishment of strong, centralized management for the parks, which focused on the needs of the entire system and promoted the national park idea to Congress and the public. National park leadership was elevated from a clerk's position in the Department of the Interior to a fully visible and aggressive new agency backed by leading proponents of outdoor recreation, tourism, and landscape preservation.

USE AND ENJOYMENT. Once established, the Park Service developed management traditions that reflected the founders' concepts of national parks—and constituted, in effect, the agency's interpretation of what the Organic Act intended. For the first 17 years, the Service was in fact run by two of its founders (Mather and Horace M. Albright)—men who, because of their personal involvement in the passage of the act, firmly believed they understood the intent of the Organic Act and its statement of purpose. These first two directors placed particularly heavy emphasis on making the parks more accessible and

managing them essentially as scenic recreation areas to ensure continued public use and enjoyment. And their dedication and energetic leadership created a kind of momentum in park management that would accelerate, continuing virtually unchecked for decades—thus fundamentally affecting the condition of the parks and the attitudes and tendencies of the National Park Service itself.

In developing its management traditions, the Service made no sustained effort to comprehend the parks in a scientific sense—for example, to understand native populations of flora and fauna and

how they interact with their natural environment. Nor did the Park Service truly understand the consequences of its own actions—how, for instance, developing the parks for tourism, introducing non-native species, or killing predators might seriously alter natural conditions in the parks. Even the earnest efforts of a tiny cadre of National Park Service scientists in the 1930s to shift toward scientific, research-based management lacked adequate strength to overcome the entrenched bureaucratic traditions.

Most important, Congress itself supported the Park Service's operation of parks, and did not insist upon scientific management; and over the years it funded substantial tourism development in the national parks. Congress also increased the Service's responsibilities in recreational matters by creating a diversity of new types of parks intended for intensive public use (such as national parkways, national recreation areas, national seashores, and urban parks), and by mandating that the Park Service become involved in large-scale national and state recreational planning. In effect, Congress sanctioned the Service's management traditions and its interpretation of the Organic Act. Until Congress or the public seriously and consistently challenged the emphasis on tourism and scenic recreational values, it could be assumed that the Service was operating the parks much as had been intended.

A VERY GRADUAL SHIFT. The Park Service thus remained on a course destined to bring it in sharp conflict with environmentalists who would emerge in the 1960s and 70s. The visions and goals of the early 20th century did not fit the ecological ideals evolving half a century later, when rapidly increasing public use was seen to be wrecking the parks. But the Service—confident of its long-established management traditions—was not prepared to change course quickly when a more environmentally aware public at last demanded changes.

Early management directives emphasized tourism, but public use took its toll.

The environmental era of the 60s and 70s with its key natural resource legislation (such as the Wilderness Act, National Environmental Policy Act, and Endangered Species Act) raised the Service's ecological awareness and moved park management gradually toward a more scientific focus. And during this era, the significant changes in public and congressional attitudes about parks shifted interpretation of the Organic Act in the direction of ecological preservation. Nevertheless, the need to ensure public use and enjoyment of the parks (in the traditional sense) continued as a powerful factor in national park affairs—securely anchored by the parks' enormous popularity, and by the Organic Act's mandate to provide for public enjoyment.

Since Congress had never defined exactly what it meant to keep the parks "unimpaired," the Park Service's mandate in fact remained ambiguous and open to broad and often divergent interpretation. The mandate fostered the initial emphasis on use and enjoyment, but it also justified more recent efforts to preserve (and even restore) ecological integrity in parks. It certainly did not exclude close scientific management of the parks when that became a recognized option. But without a clear definition from Congress, proponents of the scientific and recreational points of view were left, in effect, contending over control of the definition of "unimpaired" to determine how national parks would be managed.

WITHOUT A CLEAR FOCUS. In 1970 and again in 1978, Congress included in national park related legislation provisions which amended the Organic Act. The 1970 amendment stated that the parks "derive increased national dignity and recognition of their superb environmental quality through their inclusion...in one national park system preserved and managed for the benefit and inspiration of all of the people." The 1978 provision reaffirmed the Organic Act's statement of purpose, and required the parks to be protected and managed "in light of the high public value and integrity" of the national park system, and in a manner that avoids "derogation of the values and purposes" for which the parks were established. The 1978 provision in particular enhanced the protection of ecological values. But neither amendment defined or prioritized the "values and purposes" of the parks (which ranged from intensive recreational use to scientific preservation) to help resolve the Organic Act's ambiguities. The Organic Act remains the principal reference for national park management; and the Park Service



continues to confront the duality of the original mandate both to use and preserve the parks.

Beginning with the environmental era, the dignity and nobility of the national parks, once seen largely in terms of majestic landscapes, came also to be measured in the precise, objective terms of science. And it has become apparent that, due to human influences from inside and outside park boundaries, the parks' natural resources increasingly have undergone ecological degradation, slipping farther from any semblance of pristine conditions. A Park Service report to Congress in 1980 quantified the pervasive deterioration of the parks' natural resources, citing threats such as encroachment of non-native species, impacts by park visitors, and air and water pollution. The report noted that the threats were causing "significant and demonstrable damage," in many cases irreversible. Despite the Service's increasing efforts to address these threats, there has been only very limited progress in restoring anything like pristine natural conditions. Thus, while the parks continue to be tremendously popular with the American public, the goal of leaving the parks indeed ecologically unimpaired seems more and more unattainable—moving farther out of reach, like a distant, receding star.

Dick Sellars is with the National Park Service in Santa Fe, and is writing a history of the management of nature in the national parks. This article was printed in the January issue of Journal of Forestry. The views expressed in this article are his own.

WHY CONDUCT LONG-TERM RESEARCH IN THE PARKS?

AN OUTSIDE RESEARCHER'S VIEW.

This is actually a two-part question. First, why conduct long-term research? Second, why conduct such research in national parks? My comments are appropriate for certain types of ecological research, with my own views biased by long involvement in population studies of wolves and moose in Isle Royale NP.

"Long-term," of course, is usually measured against the typical span of a human lifetime, when it actually should be scaled by the organism or process involved. Most population studies, of necessity, must span several generations to encompass enough time for meaningful variation in population growth rates. For organisms with short lifespans, "long-term" might mean weeks or months. James Watson conducted his Ph.D. studies of virus populations over Christmas vacation. In contrast, after 30 years of studying Isle Royale moose, we felt we had documented only a single peak and trough in a potentially cyclic system.

The length of study, then, has to be a function of the intrinsic pattern of temporal change, the pendulum's natural periodicity. The timeframe for ecological studies, which may involve patterns of nutrient cycling and complex interactions of a wide variety of plants and animals, must be properly scaled to the slowest process involved, usually measured in years.

My own perspective on predator-prey interactions among large mammals was molded by studies of wolves and moose in Isle Royale. While this is one of the longest studies of animal ecology ever conducted, our conclusions still must be tempered

by the fact that only a narrow range of winter weather was experienced from 1959 to 1992. Climatological data indicate that snowfall was twice as great in the early 1950s as in any year since then, and that the moose population existed at an unprecedented low level. Conclusions about the relative importance of weather, predation and food in the dynamics of ungulates will be compromised by omission of such events of singular importance. As ecological data are gathered over longer periods, its variability tends to increase, opening new vistas for those with funding and patience.

Given that a long-term perspective is often required for ecological research, then why would an "outside" member of the research community choose a national park for such work? The simplest and best reason arises from the 1916 Organic Act which established the National Park Service, and directed it "...to conserve the scenery and the natural...objects and wildlife...unimpaired." Certainly the commitment to this mission has varied widely across the range of national parks. Nevertheless, compared to the rest of the American landscape, the national parks contain many of the best "undisturbed" ecosystems in the United States. The extent of such areas can only dwindle in the decades ahead, and national parks will become increasingly important as bellweather research sites.

National parks should serve as magnets for ecological research, so that complementary research enlarges each effort. Collaborative work may then grow and multiply. While our un-





Photo by Scot Stewart

derstanding of park environments may be very spotty, researchers initiating new studies in parks may benefit greatly from historic records, growing data bases within parks, and local expertise.

Yale historian Robin Winks considers each national park to be a branch campus in the "world's largest university," with unparalleled opportunities to educate. The analogy to a great university can be naturally extended to include strong research. Good teaching, or interpretation, should be a major vehicle for dissemination of the newest and best research.

The commitment to maintain national park ecosystems, with their characteristic natural processes and populations, is a critical attraction for researchers, who, of course, must appreciate that proposals for experimental manipulations are likely to receive close scrutiny. Unfortunately, many scientists mistakenly believe the National Park Service has a policy against experimental manipulations. The National Park Service has to judge, on a case-by-case basis, the scientific importance and compatibility of any research project. Blind resistance to manipulations within parks should decline as awareness grows of the tremendous dynamics of nature itself, and the importance of national parks in assessing the resilience of ecosystems. There is also a growing realization that maintenance of natural processes may, in fact, require rather

sophisticated manipulation, the "ecological engineering" referred to in the 1963 Leopold Report.

Massive future upheavals in the ecosystems of our national parks are a certainty, both by natural processes and by human actions manifested on global and regional scales. Park managers with ecological insight know that simply documenting the resources within a park is a tremendous job. Understanding the ecological interactions involved is an even more daunting challenge, and it is unlikely the National Park Service can do the job alone.

Finally, researchers should be aware that science in the national parks comes with an automatic constituency, namely the general public. One could hardly ask for an audience more favorably disposed to learn about interesting aspects of our parks, or a stronger ally when it comes to maintaining the integrity of critical long-term studies. Add to this the growing interest within the National Park Service in documenting and long-term monitoring of resources within parks, and there is obvious potential for developing mutual scientific interests.

Rolf O. Peterson is with the School of Forestry and Wood Products at Michigan Technological University.

Garden of Remembrance

The curious mind might wonder what Pearl Harbor looked like before it was occupied by the Navy. The interpretive and maintenance staffs of the USS Arizona Memorial sought out this information through a variety of agencies in Honolulu, then applied it to the creation of a botanical garden at USS Arizona Memorial. April 23, 1992, marked the official beginning of the garden, which will feature a collection of 30 native Hawaiian coastal species, originally common to the shores of O'ahu. Five of these plants are candidates for placement on the federal list of Endangered or Threatened Species this year.

The dedication held in conjunction with Earth Day, was assisted by 83 fourth graders from the Pearl Harbor Kai Elementary School, who helped plant a yellow-blossomed 'oh'a-lehua, an endemic Hawaiian forest tree, in the traditional way. When complete, the garden will be used to help educate the children of Hawai'i. The diversity of native Hawai'i is only just now being realized. To understand why the garden was initiated, a brief overview of the Hawaiian Island chain should be mentioned.

Hawai'i is perhaps one of the most isolated island groups in the world. Winds transported the first birds and seeds to the bare volcanic rock. Ocean currents also delivered floating seeds, and, eventually, successful plant and animal pioneers adapted and evolved into unique species discovered nowhere else in the world. When the first Polynesians arrived, these early explorers probably found the islands to be heavily forested. They introduced taro, sweet potato, breadfruit, yam, arrowroot, and sugar cane.

Taro cultivation required vast tracts of land and engineering skill: earth and rock walled enclosures were flooded by diverting neighboring streams. When European explorers arrived they discovered a highly sophisticated system of ponds and water courses devoted to taro cultivation. To obtain the necessary land, Hawaiians had eliminated native vegetation via slash and burn methods. In 1831 a Prussian botanist visiting the islands indicated that taro cultivation dominated the coastal lowlands and the valleys leading into the mountains. He noted that the entire area was without forests. Botanical studies indicate that severe vegetational alterations occurred due to the slash and burn practice. Field system examinations of soils in several areas indicate buried burn layers containing charcoal of native plants that no longer exist.



The 1778 "rediscovery" of the Hawaiian Islands led to the world's awareness of the island chain. The location of Hawai'i made it a favored port for European and American vessels. The increased number of arriving ships intensified the demand for bananas, taro and sweet potatoes, which initiated the transformation of the traditional Hawaiian subsistence economy into a cash-based system. Additionally, there was an increased demand for meat, initially supplied by the Polynesian pig. The Hawaiians welcomed the Europeans' offer to introduce other meat bearing animals, such as the larger European boar, the goat, and cattle. These animals were released and allowed to become feral. The impacts these feral animals made on native forests were quickly noticeable. Wild cattle on the big island of Hawai'i destroyed thousands of acres of native forest by eating them up.

In 1843, progressive land reform laws swept the island kingdom. The new laws enabled foreigners (mostly Americans) to own land, thus paving the way for large-scale commercial agricultural activities. Land once devoted to taro cultivation became ideal for sugar-cane plantations. By 1900, most coastal or lowland areas were devoted to the cultivation of this crop. Pineapple fields at higher elevations also led to the destruction of large tracts of native forest, which led to the spread and naturalization of aggressive non-native plants.

By 1970, it became evident that native Hawai'i was in serious trouble. Studies indicated that native Hawaiian plants and animals were moving toward extinction more quickly than on the mainland. Approximately 75 percent of all recognized plant communities in the coastal and lowland areas on O'ahu are considered to be rare. The remainder of the state does not fare much better. The Federal Register of Endangered and Threatened Wildlife and Plants which was reviewed and updated in February 1990, indicates that one-third of all plant species considered to be endangered or seriously threatened are endemic Hawaiian species.

So this brings us to the native plant garden. Special educational programs are scheduled to be established at the park site and the garden will become a useful tool to send a strong message to curious young minds, as well as the diverse mix of visitors who travel to Pearl Harbor. At a site where remembrance is a principle theme, such a garden is quite appropriate.

Skip Wheeler

BY CRAIG HICKS





BETTER SCIENCE TO PROTECT PARKS.

The Grand Canyon. The White House. Mammoth Cave. The birthplace of Martin Luther King, Jr. Everglades. USS Arizona Memorial. Badlands. Each one of these places is part of the network of natural, cultural and recreational park areas for which the National Park Service is responsible. Every day at the 361 sites across the nation, NPS staff make decisions that balance visitor needs with the protection of park resources. But achieving this balance can be extremely challenging. All too often, managers have to make decisions without knowing all the facts.

A recent report by a committee of the National Research Council concludes that park managers need more help from scientists to protect the nation's parks for future generations. The Research Council is a part of the National Academy of Sciences, an independent organization of distinguished scientists and engineers. The Academy was chartered by Congress in 1863 to serve as an official adviser to the federal government in matters of science and technology.

"For more than three-quarters of a century the NPS has held a dual responsibility to conserve the resources of the parks and provide for their enjoyment by the American people," said Paul G. Risser of the University of New Mexico, who headed the committee. "But increasing numbers of visitors and the myriad stresses of the modern world are turning that dual mission into a losing battle."

PROBLEMS AND SUCCESSES. Problems facing the parks include stresses created by the number of visitors; exotic plants and animals that compete with native species; and pollution. Haze caused by air pollution, for example, has obscured scenic vistas in some of the largest parks including Yosemite, Grand Canyon, and Great Smoky Mountains.

Almost a dozen independent reviews of Park Service science during the past three decades have found research efforts dealing with these and other problems to be hampered by insufficient budgets and internal disagreements about who should direct the work. But despite repeated recommendations aimed at making corrections, little has changed.

Nevertheless, the work of scientists in the parks has produced success stories. Scientists studying gray wolves in Isle Royale NP (MI) and Denali NP & Pre (AK) made ground-breaking discoveries about cyclic population changes in large mammals. At Cape Cod NS (MA), off-road vehicles were blamed for eroding dunes, annoying visitors, and threatening endangered birds. Scientific studies led to a comprehensive management plan provid-

The NPS program should include a strong "parks for science" component to address major scientific questions, particularly in large undisturbed natural areas.

Photo by Bob Nichols.

ing both access for off-road vehicles and protection for sensitive resources.

Yet frequent changes in leadership and an emphasis on short-term resource management have left the science program's potential largely untapped, said the committee, first called together by the National Research Council in response to a 1990 request from NPS Director James Ridenour for advice on how to strengthen the role of science in park management. The twelve members of the committee included four Park Service veterans. Almost all of the members had conducted research in the parks.

A MANDATE FOR CHANGE. The committee's report calls for a scientific metamorphosis within the Park Service. An element essential to this change is an explicit mandate from Congress defining the authority, mission, and objectives of the national parks' science program.

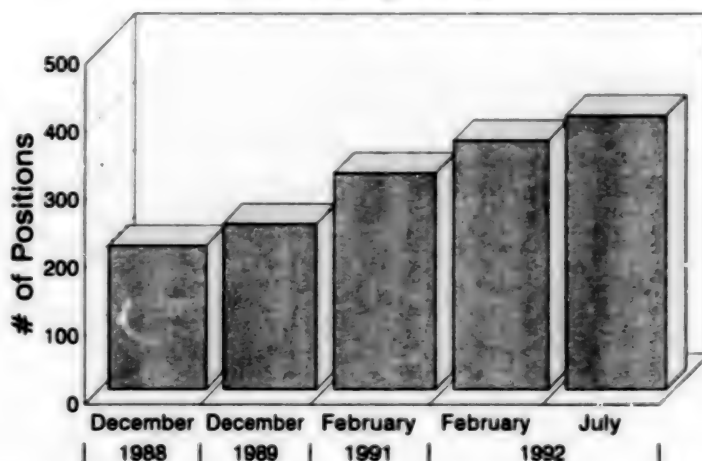
Also, the Park Service must take concrete steps to enhance the program's credibility and quality, said the committee. Such steps would include involving more external researchers, establishing an independent science advisory board to provide ongoing program review, and recruiting a chief scientist of "appropriately high scientific stature" to lead the program.

To ensure continuity of funding and long-term planning, funds for the science program should be provided through an explicit, separate budget. A strategic increase in Park Service science program funds is needed also "especially to create and support the needed long-term inventories and the monitoring of park resources," concluded the committee.

SCIENCE FOR PARKS. The committee recommended that the Park Service establish a strong, coherent research program to give managers the data needed to anticipate and resolve problems. "Park managers must make decisions often on short notice when there is no time to start a new research program for every situation," noted Risser. At the most basic level, the Park Service should maintain an inventory of plants, wildlife, and other park resources and monitor changes in their status. Without such research there is no reliable way to tell what resources are present or if they will survive for future generations.

During the 1989 Exxon Valdez oil spill, vast stretches of Alaskan coast were affected, including beaches in Kenai Fjords

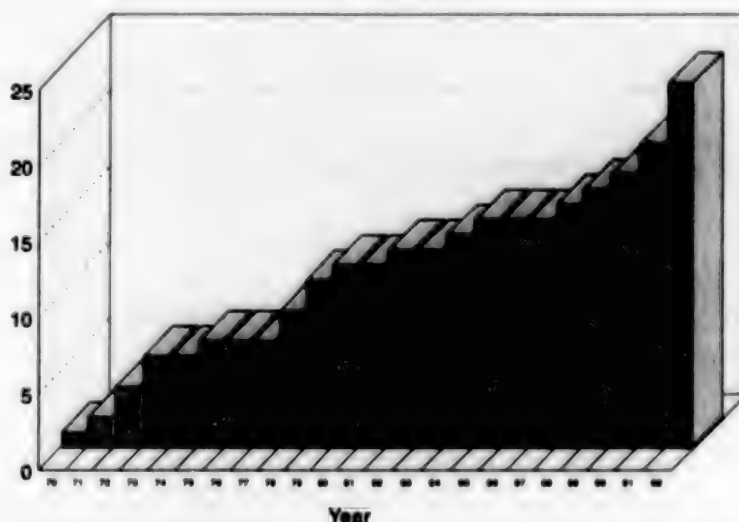
General Biologist Series (GS-401) Increase in Permanent Positions (12/88 through 7/92)



Figures include some research positions

The increase in personnel in the 401 series (resource biologists and natural resource management specialists) demonstrates a start in responding to the call for professionalization.

Number of CPSUs Active per year



The increase in the number of CPSUs shows that their value is recognized in the agency.

NP and Katmai NP & Pre. Because scientists had little information about these areas before the spill, the amount of damage was caused by the oil or the value of cleanup efforts in effecting recovery could not be evaluated. A better information base



More science... means use of parks in a way that would preserve the natural resources.

would have helped park managers assess the losses, anticipate ecological changes, and develop strategies to minimize or repair damage for the spill.

PARKS FOR SCIENCE. The NPS program should also include a strong "parks for science" component to address major scientific questions, particularly in large undisturbed natural areas, the committee recommended. It should include NPS scientists and other researchers in independent and cooperative activities. The parks can provide scientists with valuable insights into natural and human history as well as regional and global environmental change. Relatively untouched natural settings offer unparalleled opportunities to study evolutionary adaptation, ecosystem dynamics, and other natural processes. These settings could be compared with others to measure the effects of human activity on the environment.

RESEARCH REWARDS. In central California's Sequoia and Kings Canyon NPs, the fire management program stands as a clear example of how parks can benefit from long-term research. Attractions in these parks include Mount Whitney, which is the highest mountain in the lower 48 states, the yawning canyons of the Kings River, and majestic groves of giant sequoia trees.

"Over time," Risser explained, "needles dropping from the sequoias accumulate on the forest floor. If the needles are allowed to build up for a long time, they create a very large fuel load. Then, if there's a forest fire, it's a bad one."

Conventional wisdom of years past suggested that putting out forest fires was a good way to protect forests. That is exactly what the Park Service did for decades in the groves of Sequoia and Kings Canyon NPs. But this strategy led to problems. Fir trees, previously kept out by the fires, spread into the groves and crowded out sequoia seedlings. The solution, provided by research that began in the 1960s, was "prescribed burning"—occasionally setting controlled forest fires to burn the sequoia needles and other forest-floor debris and discourage non-native trees from taking over.



During the 1989 Exxon Valdez oil spill, vast stretches of Alaskan coast were affected.

PARKS FOR PEOPLE. But what about all those visitors? Would a greater emphasis on science transform parks into a giant laboratory, off limits to the public? Not at all, Risser explained.

"More science does not mean less use of parks. It means use of parks in a way that would preserve the natural resources. In many ways research actually allows a greater use of the resource. If we don't understand how the resource works, then our reaction is to be very conservative and not let people in. But if we understand how it works, then we can frequently accommodate use but still protect the resource."

Craig Hicks is a media relations associate with the National Research Council. His article was adapted from a story appearing in the fall 1992 issue of *NewsReport*, a quarterly publication of the National Research Council. *Science and the National Parks*, the report of the Committee on Improving the Science and Technology Programs of the National Park Service, is available from the National Academy Press.

ANATOMY OF A SUCCESS

OUTSIDE FUNDING FOR RESEARCH AT SEQUOIA-KINGS CANYON.

It all started with a need to know if acidic deposition (acid rain) was falling in the Sierra Nevada of California, and if the aquatic and terrestrial ecosystems of the "range of light" were beginning to show signs of change. Sierran lakes, streams, forests, and bed-rock geology closely resemble those of Scandinavia, the place where damage from acid rain and snow was first detected. In northern Europe this damage included dead fish, reduced soil fertility, and reduced diversity of aquatic plants and animals. For a long time researchers assumed that the same fate would not befall the Sierra Nevada because there were few upwind sources of air pollutants that contribute to acid deposition (in both the wet and dry forms): sulfur dioxide and nitrogen oxides. Then they began to think otherwise.

In the early 1980s the federal government mobilized scientists to document the severity of acid deposition in the United States, under the National Acid Precipitation Assessment Program (NAPAP). Research and monitoring efforts targeted eastern and mid-western lakes, streams, watersheds, and forests for study because of the high concentrations of pollutants in the rain. In California rains come mostly in the winter, when storms sweep down from the Gulf of Alaska, intersecting relatively clean air enroute. For this reason the state and its resources were considered to be relatively immune from this form of air pollution.

National Park Service (NPS) researchers were already aware that another air pollutant, ozone, was causing the yellowing of pine needles on the western slope of the Sierra and that particulate air pollution was degrading the scenic vistas of the high country. They were not convinced that the resources under their care were safe from acidic pollution that could be transported long distances and have effects in areas far removed from man's activities. Armed with an "affirmative responsibility" to preserve and protect park resources, an NPS watershed study was initiated at Sequoia National Park (SEKI), California, one of a network of four NPS sites nationwide where long-term data on the status of "sensitive" ecosystems would be collected. This NPS program, included under the umbrella of the

larger NAPAP program, had enough funding to allow park researchers to make a set of "core" measurements: meteorology, rain and snow inputs, vegetation type and productivity, soil mapping, and surface-water chemistry.

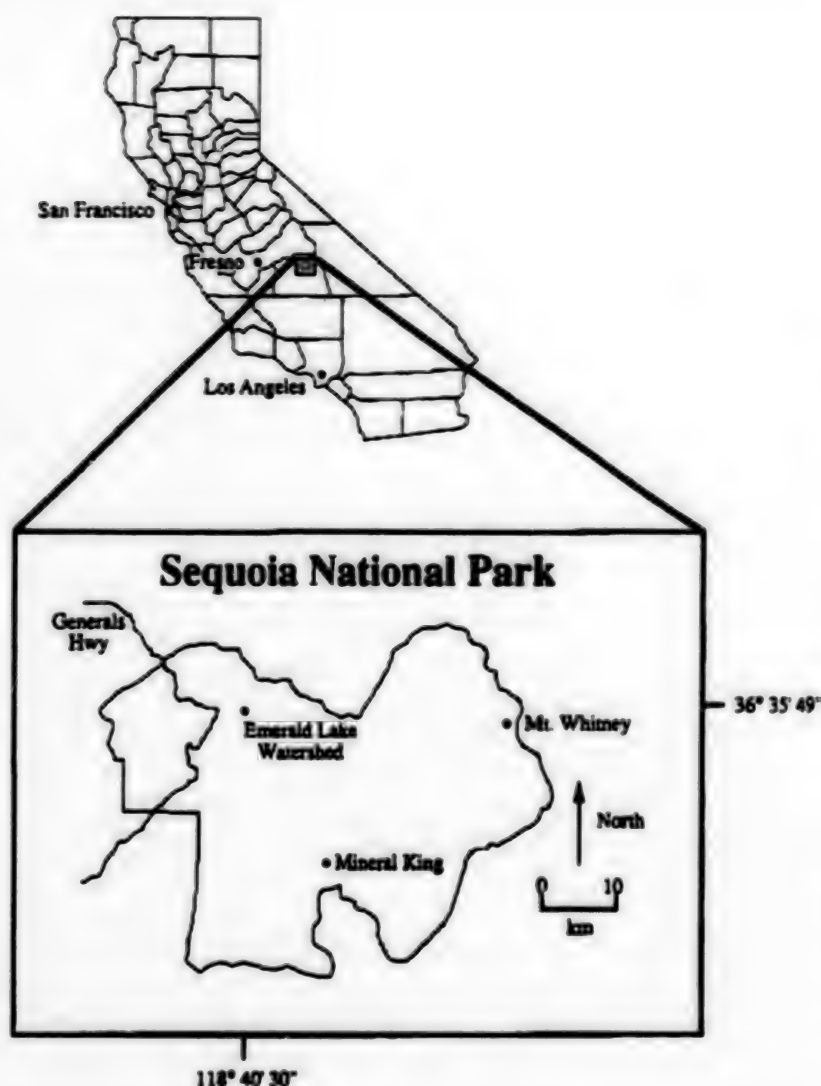
What was left out of the plan was more intensive, "process-level" studies, ones that would allow scientists and resource managers to understand how the natural systems respond to the addition of acids as rain, snowmelt, cloudwater, dry particles and gases. SEKI researchers' response to this need and the limited funding to do these crucial studies was to define a comprehensive plan, package it, and then go "on the road" to try and sell parts of the program to other agencies that had the interest and the funds to support long-term, intensive studies. They promoted the program by giving seminars and informal talks, by spending time with program managers from state and federal land management and regulatory agencies, and by starting a campaign of environmental education that kept the issue of acid deposition in the Sierra Nevada on the mind of the California public.

To entice others to join the research effort, the SEKI administration dedicated the former superintendent's residence for labs, computer work stations, and living space for visiting researchers. Perhaps the most effective tool they used was to take researchers out to see the resources at risk, the most obvious one being a small subalpine lake situated at the base of a dramatic, granite basin on the western slope of the Sierra—Emerald Lake.

I was on that "grand tour" of the Emerald Lake watershed back in July 1983, slogging along the five miles of still snow-covered trail that led to the watershed. It still looked like winter in the watershed; this impressed us with the possibility of acids being transported in snowmelt runoff to poorly-buffered headwater lake and streams. We were led on our inspection tour by

Perhaps the most effective tool they used was to take researchers out to see the resources at risk, the most obvious one being a small subalpine lake at the base of a dramatic, granite basin. Photo by Kathy Tonnessen.





Superintendent Boyd Evison, park scientists Dave Parsons and Dave Graber, and program coordinator Tom Stohlgren. That trip proved to be a turning point. Shortly afterwards the U.S. Geological Survey installed stream gauging equipment in the Emerald watershed as part of their acid rain program and, most significantly, the California Air Resources Board (ARB) chose the Emerald Lake watershed as the focus of a ten-year, acid deposition research and monitoring program, begun in 1984 and planned to continue until 1993.

When the final tally is made, the park will have garnered more than eight million dollars in research and monitoring projects from the ARB. Others added to the overall funding total: Electric Power Research Institute, Southern California Edison, University of California, Environmental Protection Agency, National Aeronautics and Space Administration (NASA), and National Oceanic and Atmospheric Administration.

And now the research and resource management specialists at SEKI are doing it again—this time organizing an ambitious program to investigate the potential for effects of global cli-



When the final tally is made, the park will have garnered more than eight million dollars in research and monitoring projects from the California Air Resources Board. Photo by Kathy Tonnessen

mate change on resources in the park. SEKI is part of the Sierra Nevada Biogeographic Area designated by the NPS Global Change Research Program. Again, the NPS "seed money" to investigate the influence of climate on the distribution of vegetation communities in the park, has attracted other agencies with investment capital to global change-related studies. NASA

has chosen the alpine region of the park for study under the Earth Observing System, a ten-year project awarded to the University of California to study the effect of climate change on the seasonal snowpack in mountainous regions worldwide.

The possible ways of using SEKI ecosystems as "natural laboratories" seem to be constrained only by the imagination of the research community, and the funding provided by the NPS as well as the other agencies and entities who need to solve resource protection problems. The folks at SEKI have demonstrated through the years that attracting researchers and research dollars is a simple matter of having the right strategy—define the research questions, demonstrate how park ecosystems can be used to investigate these problems, provide support for researchers in the form of facilities and personnel, and then do some marketing and education. It's a winning formula.

Kathy Tonnessen was formerly with the California Air Quality Division, which funded SEKI. She is now with the NPS Air Quality Division.

WHERE SCIENCE AND MANAGEMENT COME TOGETHER

STRETCHING BOUNDARIES AT THE ECOLOGICAL RESEARCH WORK- SHOP.

As a park manager, I am forced to deal with the practical sides of issues. I'm suspicious of programs that originate at the higher levels of government. Sometimes I look at academics as people insulated from what is real and all too ready to propose naive, unrealistic solutions to problems that have been studied to death. A warning bell automatically sounds in my mind when I see a new program with a "glitzy" title, especially if it has a fancy acronym such as "SBI"—"Sustainable Biosphere Initiative"—which, as it turns out, is a report by the Ecological Society of America developing a national ecological research agenda.

As I sat in the NPS workshop that had come together to propose a strategic ecological research plan for the Service, I found some of my biases were well founded. I also found out a few other things. First, I was the only park manager sitting around the table. The rest were highly regarded scientists assembled from within and outside the Park Service. My role was that of "realism manager," and I believe it assisted them. Hardest for me was not to let the role encumber me in discussing technical ecological relationships and intellectually sparring with scientists on the cutting edge of their profession.

That may be one of the big problems faced by park managers of large, complex ecosystems. Mired in custodial duties, striving for vision, seeking strategic opportunities, we often aren't fully aware of the complex ecological relationships that exist in the parks we manage, nor are we aware of the most recent scientific developments and thinking that should be providing us insight and direction. Many times during the workshop, the level and complexity of the discussion required me to concentrate deeply, to learn new terminologies and to escalate my basic college level ecology courses to a doctorate level. Yet, I found this challenge to be intellectually stimulating.

I also found, after a time, I was able to hold my own. It was an exhilarating feeling to follow and participate in these discussions. As I did so, during the course of the week I began to have new insights into what my job as a park superintendent entailed. I realized that I've got to be more than a superintendent. I've got

to perceive myself as a science professional managing a globally significant resource, a professional who must be familiar and comfortable with ecological concepts long held as the exclusive domain of research scientists.

Of course, this self-perception must be based on some sort of reality. I am not a researcher, nor do I have the educational background to legitimately claim the credentials the scientific community requires. Yet, I am a professional in the field of science in my own right—and I claim that right when I say I am the superintendent of a natural resource that preserves and protects certain ecological processes.

How many of us truly have that self-perception? How many of us read and study in the fields of science more than what is required to sign a collecting permit? How often do we deliberately push our intellectual frontiers and expand our grasp of difficult areas of science? How many of us even feel that such an effort is needed? How often does our agency provide opportunities for park managers to be challenged intellectually by a group of scientists who can expose us to new concepts and research?

In my view the goals of the workshop were met. The group was able to link an NPS mission with key concepts of the Sustainable Biosphere Initiative, and identify research priorities in the areas of global change, biodiversity and sustainable systems. I think I fulfilled my role as a "reality check" and gave some insight into what life was like in the "park trenches," as well as how to formulate approaches that were responsive to management concerns. Perhaps, most importantly, I left the workshop feeling I had learned more than what I had expected and received more than what I had given. Maybe we need to do more of that.

Rob Arnberger is superintendent of Big Bend NP.

Editor's Note: Rob Arnberger's perspective on the role of science for superintendents offers food for thought. Courier would like to hear from others in similar managerial positions who agree or disagree with Arnberger's concept. Responses will be printed in a later issue.

TEN YEARS OF PROGRESS

SHENANDOAH'S NATURAL RESOURCE MANAGEMENT PLAN.

In 1982, the natural resource management program at Shenandoah NP consisted of a \$30,000 annual base operating program and a GS-11 resource management specialist reporting to a chief ranger. Today, a staff of 11 permanent employees and eight seasonal biological technicians are supervised by a GM-13 division chief reporting to the assistant superintendent. The annual base operating program for the Division of Natural Resources and Science is now more than \$500,000. What was the formula for this significant progress? I believe it was a combination of leadership, commitment, and partnership.

Developing a successful NPS natural resource management program doesn't happen without effective leadership, and a critical element of good leadership is vision—knowing where you want to go and how you want to get there. During Shenandoah's ten year growth span, the park benefitted from three superintendents who all regarded resource management as their central responsibility. Upon his arrival in 1987, current Superintendent Bill Wade notified all employees that protecting the park's natural and cultural resources was their primary mission.

Significant leadership during this period came from Dave Haskell, Shenandoah's natural resources and science division chief. Haskell understood that resource protection required a professional, competent resource management program. He envisioned the program, and developed a strategic plan, supported by annual goals, objectives, and performance standards. A division-level program evolved, comprised of professional natural- or physical science-classified specialists, and segmented into program areas, such as Air Quality Management and Integrated Pest Management, each headed by a program manager reporting to the division chief.

The Mid-Atlantic Region also demonstrated leadership. In the early 1980s, when I became the regional chief scientist, I wanted a broader, stronger regional research program that could support park natural resource programs. The regional natural science base then consisted of only \$30,000 for project funding, with Servicewide funding extremely limited. This changed as the quality, visibility, and responsiveness of park research activities gained the regional director's support, and internal credibility enabled Mid-Atlantic research proposals to compete better for available funds. Reading every park resource management plan, I developed a strategy to strengthen park natural resource management, using Shenandoah as a starting point.

Air quality interpretive sign gives visitors information concerning one of the important resource management issues faced by the park.



Resource Management Chief David Haskell assists with weighing a bear cub that was recently taken from a den on Old Rag mountain. One of three cubs, it was weighed, tagged, and safely returned to the den with the sow.



Shenandoah is the only park in the region with a national park designation, a park that during the 1980s received the lion's share of the Servicewide research funds designated for the region, mainly from the WASO Air Quality and Water Resources Divisions. It was the obvious place to build the program.

But the leadership required to carry this out would have been worthless without commitment. At Shenandoah, everyone was committed. The park's superintendents made supportive decisions, gradually restructured internal program priorities and improved the park funding base for resource management. Division chiefs understood how park resources were to be managed and worked toward that goal. Haskell took time to understand the Service's budget and funding process, so that he could take advantage of funding opportunities. And he made opportunities happen also by being creative, aggressive and, yes, even risky. Haskell never settled for anything but the best, although the best was always the most expensive. He understood that excellence must be paid for, just like anything else. Now all of Shenandoah's professional resource management staff are GS-9s and above, and most have graduate degrees. They frequently write technical articles and present papers at regional and national conferences. Appropriate performance standards allow the staff to be rewarded for these activities. The park does not have any research grade scientists. In cooperation with the regional science program, each program area manager identifies resource issues and needs, overseeing and coordinating research projects and personnel, and incorporating new knowledge into the management program.

In 1984, I was able to demonstrate my commitment to Shenandoah when the gypsy moth threatened park forests. Years earlier, I had watched researchers come and go at the park, many of them establishing temporary plots to collect relevant project data. Each used different plots, independent of previous research efforts. I suggested establishing permanent plots throughout the park and concentrating research efforts there. New plots would be made available only according to set guidelines and standards.

As the gypsy moth approached Shenandoah, Haskell and I knew it couldn't be kept out of the park or its impact significantly controlled. So a long-term monitoring system analyzing gypsy moth population dynamics and its resulting impacts on the park's resources was developed, proposed, and funded through the Natural Resource Preservation Program (NRPP). Inventory and Monitoring (I&M) was born at Shenandoah.

In 1987, the commitment continued in the form of a follow-up NRPP project implementing the system and inventorying park resources. In 1990, the I&M program became park base funded, with program shortfalls being temporarily met by the regional science program. The region maintained its commitment to support and enhance existing park programs before initiating new ones. Of course, these commitments depended on the park's commitment to eventually become self-sufficient, a commitment that has been lived up to by Bill

Wade and Dave Haskell. In 1992, the park became one of the first four Servicewide I&M pilot efforts, thanks not only to the efforts of Wade and Haskell but also to the many independent and contract investigators who remained committed to the park's resources, often donating time through independent study or other efforts well beyond the scope of written agreements.

The importance of partnerships, the final ingredient in the resource management formula, has been recognized where park neighbors are concerned. But the internal partnerships have carried the day at Shenandoah. Limited turnover of key personnel provided continuity for the team. Two of the three park superintendents served during most of the past ten years of program growth. Haskell and I held our positions during the entire ten years, and personnel on Haskell's staff changed infrequently. Benefits of course do occur from personnel moves, but, as people change, so do priorities, visions, and commitment. Haskell and I shared a common vision, remaining committed to that vision and working in close partnership during those growth years.

The development of excellence in Shenandoah NP's resource management program didn't occur by accident. People persevering and working together towards a common vision made it happen.

John Karish is Mid-Atlantic Regional Chief Scientist.

BRINGING THE ISSUES TO THE PUBLIC

While there are many natural resource management concerns at Fire Island NS (NY), none has received more staff time and attention this year than the piping plover (*Charadrius melodus*), a small shorebird that returns to Atlantic coast beaches every spring and summer to nest and raise its young. In 1986, the piping plover was added to the Federal Threatened and Endangered Species List. Since that time plovers have been sighted in increasing numbers along many eastern beaches. Unfortunately, while its numbers are increasing elsewhere, the number of plovers at Fire Island is still very low, even though other Long Island beaches have an abundance of the birds. To protect these birds, the U.S. Fish & Wildlife Service initially asked for total beach closure to protect plover critical habitat. However the NPS was aware that the multiple-use character of the island and its many special interest groups would make total beach closure difficult to enforce and ultimately might lead to litigation.

To understand the complexity of beach closure, it helps to look at the makeup of Fire Island, a 32-mile long barrier island off the south shore of Long Island, New York. Along this thin ribbon of sand, which averages 1/4 mile in width are 17 communities with 40,000 seasonal residents, state and county parks, several town beaches, marinas, Park Service visitor use areas, and the only federally designated wilderness area in New York State. Accessible by ferry service, private boat, and a bridge at each end, it averages an annual visitation of 900,000. Vehicle usage is restricted during the summer months to the NPS, county police, and utility companies. Additionally, beach driving is allowed during the off-season for fishing and waterfowl hunting access, contractors, garbage carters, and approximately 200 year-round residents.

The primary argument used by the NPS to avoid entire beach closure was the lack of research demonstrating why the plover had returned to areas other than Fire Island. Perhaps even with closure, it was suggested, the plovers might not return. Maybe there was something different about the Fire Island beaches that no one had yet discovered. Since documented scientific research was needed for a plover recovery strategy, Fire Island's natural resource staff devised a research and education plan acceptable to the Fish and Wildlife Service. The three-year project, which began last winter, called for the closure of three beach areas to all vehicles. These vehicle-free areas would be observed in hope that minimal human disturbance would encourage more plovers to nest there. Interpretation was included in the plan as the NPS had to assure the Fish and Wildlife Service that visitor education would be pursued.



Unfortunately, while its numbers are increasing elsewhere, the number of piping plovers at Fire Island is still very low. To protect these birds, the Fish & Wildlife Service initially asked for total beach closure. Photo of plover chicks by Kyle Jones.

Prior to initiating the project, the resource management and interpretation staffs started planning the best way to ensure that the greatest number of beach users understood the reason for the vehicle-free areas and that they were out there looking for the piping plover. The strategy consisted of three elements: interpretive programs, press releases, and a direct-mail flyer.

While interpretive programs and press releases are traditional educational methods, the flyer was a new concept for the park. During the flyer's development, those involved in the process decided to make it informational. They elected not to include a discussion of regulations or the vehicle-free areas, both of which would be left to the press releases and ranger contacts. The flyer simply would educate those who were permitted to drive on the beach and who thus would be the greatest threat to adult plovers and their chicks. The flyer was distributed in the late winter, prior to the official closure of the three beach sections. It went to all year-round residents and contractors, the county police, and the utility companies. After distribution, meetings were held with officials from these groups to make sure everyone understood what the NPS was hoping to accomplish and to ask for as much assistance as possible. Extra flyers were distributed to all hunting and fishing sportsmen as well as all four NPS visitor centers. Even though these groups were not directly effected by the vehicle-free areas, their assistance was needed to watch for nests.

The combination of programs, press coverage, and the direct mailing flyer seems to be working well during this first project year. Visitors are better informed and some have even volunteered to help monitor the piping plover nests. Successfully including an interpretation element in this resource management program suggests once again that an informed public is the best management and protection tool available to us.

Mardi Butt is a ranger/interpretive specialist at Fire Island NS.

UNDER THE SPELL OF GREAT FALLS





WHERE DOES THE RANGER FIT IN?

Associate Director for Operations Jack Davis took some time out of his schedule to share his views on the ranger's role in resource management. The importance of rangers to effective resource management can not be emphasized enough, according to Davis, and park staffs need to work toward increased communication to make sure all those who can help with resource management are involved.



Q: Some people regard all park management activities as resource management. Others see resource management as a more narrow profession. In which camp would you place yourself?

A: I don't separate. I think park management is in fact resource management, and those who tend to separate things are really doing so only in an organizational sense. Our purpose is resource preservation, and then wise use for visitor enjoyment. We're here for the purpose of managing a resource that's been entrusted to us. That's what we're all about. So you can't separate.

Q: The NPS has been making efforts to "professionalize the ranger corps." How does this relate to efforts to "professionalize" resource management?

A: The park ranger represents a good many different activities within the Service. There's the public service officer who is basically the protection ranger—the ranger who deals with law enforcement, search and rescue, emergency medical services, and, to some degree, resource management. Then there are park rangers who are resource managers and interpreters with equally

important resource management roles to perform... All dimensions of park ranger work along these lines need to be professionalized. There's another group, too, particularly in a lot of the smaller areas where the general park ranger is assigned to do all kinds of things. In the larger parks rangers get more specialized. But a good many parks don't have a division of resource management, and the superintendent looks to the ranger generalist to meet the obligations.

Q: How would this increased professionalism take place?

A: Basically through recognition of positive educational requirements.

Q: In parks where there are separate resource management staffs, what role do you see patrol rangers playing in resource management?

A: In many instances, the patrol ranger is the eyes and ears for the technical resource people. A back country patrol ranger in Sequoia, Grand Canyon or Yosemite needs to be observant about what's going on with the resources, whether those observations are casual ones or whether they involve a formal monitoring program set up by the resource management staff. Of course, the patrol ranger also is going to be involved on the law enforcement side of resource management in the backcountry. Even the largest parks don't have resource management staffs large enough to provide the level of observation that is needed. So when the protection ranger is well trained and working in concert with that resource management staff, then we're doing the job we should be doing. Then we're getting a great deal more accomplished.

Q: Is any special training required to equip the patrol ranger for such responsibility?



I think park management is in fact resource management.

A good many parks don't have a division of resource management, and the superintendent looks to the ranger generalist to meet the obligations.

A: There is training, but this is pretty much a local thing on a park by park basis so far. I think those parks that don't have the close working relationship such training provides are missing an opportunity. And I think it's also fair to say that this is one of the real serious discussions that often takes place at the park level—the uncertainty as to who is responsible for the different resource management activities and programs. I cannot separate myself and say only resource managers do resource management work. I think that the ranger staff—whether they're protection rangers or interpretive rangers—need to be working with the resource management staff.

Q: It sounds like park staff have to take the initiative to communicate more effectively. What kind of Servicewide effort is being made to mandate communication?

A: That will happen as a result of Vail and through programs to promote greater professionalism.

Q: The associate directors for cultural and natural resources are looking for ways to improve communication between their disciplines, in part as a result of the Vail Symposium. Do you see a role for Operations here?

A: Operations has to be a part of that. Unfortunately we were invited to the Cape Cod meeting but couldn't participate heavily in the program.

Q: The Vail Symposium was intended to prepare the Service for the next century. Given our expectations that technology will continue to change and professionalism will increase, will we be able to recognize the NPS of the 21st century, or will it be markedly different?

A: My own feeling is that there will be increased specialization and that we're going to have to create through management



action and policy direction the coordination for that movement toward greater specialization. However, I also believe that the generalist in some of our smaller parks is going to play a very significant role for a very long time. As an organization, we may evolve to have resource management people serving more than one park, but field resource management still is going to be dependent on the local ranger staff. Whether they be park interpreters or ranger generalists in the smaller parks, they'll have to do the monitoring and report their observations. They'll be working with the professional staff, and there'll be more professionals—specialists—than ever before.

Q: Approximately 70 percent of NPS rangers hold four-year degrees. Do you anticipate that figure changing as a result of increased attention to professionalism? How will the recruitment effort and the Service's need to attract young people play into this?

A: I anticipate more master's degrees, particularly among those people in resource management-specific positions. I also think that competition among people now will provide the work pool from which we'll be able to select people with better educations and those with specific resource management backgrounds. I suspect that the rest of the workforce will have college degrees—not 100 percent in the ranger force but very close. There'll be more doctorate degrees among researchers also. A lot of research still will be done by others at universities, but we will see the number of those with doctorate degrees grow in order to manage, direct and be able to call on the scientists working with us.

Q: Sequoia/Kings Canyon programs seem to succeed because their staff scientists know how to do just that...

A: I was superintendent at Sequoia for a while, and they have an excellent combination. I'd guess some of the scientists find themselves short of time to do the research they personally want to do because the park draws on their educational and scientific

In many instances, the patrol ranger is the eyes and ears for the technical resource people.





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done and how complete it is so that they can speak out in layman's terms on positions that are in the best interest of their park's resources, knowing full well that if it is challenged scientifically there'll be the backup.

Q: Are there particular activities connected with operations and resource management that you would like to improve?

A: The main goal in this job is to help define the relationship between the ranger and the resource management and science staff in terms of how we fit into that mix and how we can contribute more effectively to the overall goal of resource preservation and presentation to the public. The Service has to deal with strengthening our ability in science and resource management. Particularly where resource management connects with the work of the patrol ranger and the field interpreter—that's where I have to strengthen the bond.

Q: How are you going about accomplishing that?

A: I'm letting Vail help me. We're doing it through the professionalization of our workforce at this stage.

Q: I recently read a report on the status of NPS interpretation, and the figures in terms of FTEs and funding suggest a great deal of need in that area. Do you find such need in other disciplines in the Service?

A: These are not going to be real rich times budget wise. We may have to do less but do it better and also properly reward the employees of the Service for the work they do. You go out into a park and see what the basic field rangers are doing. Then look at what we're paying them and it's enough to make you cry. We've got to reverse that even in the face of budget restraints. So I see less FTEs in our immediate future and, I hope, improved pay and grade levels for the professional workforce. When we don't pay these individuals as much as the basic laborer in a park there's something wrong with the system. We've got to deal with that, and I won't be deterred by lack of money. We may have to cut back on the number of walks and talks in order to pay the people that we have on staff an appropriate salary to do the work.

awareness to deal with a good many management issues. But they also have been extremely effective in using their educational skills to leverage other people to come to the park to do things for us—and that's the kind of approach I really expect to see more of in the future.

Q: How important was scientific information to you in your role as a park superintendent?

A: As superintendent at the Grand Canyon, I counted on the resource management staff to interpret some of the research and boil it down into terms that I could speak logically about in the public arena. When faced with the inevitable challenge from the people who didn't want to do the things we thought had to be done, we had articulate scientists and resource managers to represent our interests. We would not have achieved whatever level of success we achieved either on river management flows or on the air quality issue without them. And at Sequoia we had the same advantage when we were challenged on our prescribed fire program. We had the professional support to back up all decisions. If we hadn't, the resources would have suffered.

Q: How informed did you assume you needed to be as a manager of important natural resources—both about your own park resources and about general developments in the scientific field?

A: Regardless how good the research is, most managers are never going to have time to study it with an eye to the details of the data and academic analyses. However, they must know what the bottom line results are, as well as what research has been

HAVEN OF SAFETY

PEREGRINE FALCONS OUT WEST.

When a species becomes endangered, the few remaining individuals usually persist longest in the best habitat. In the 1970s, peregrine falcons were hard to find, though the national parks in the West probably provided habitat for most of the remaining pairs. Parks in the Rocky Mountains, the Colorado Plateau, and in the Sierras with their spectacular topographical relief and sweeping vistas offered prime peregrine falcon country. In the 1950s and 1960s, those parks became a falcon refugia.

The widespread use of DDT originally reduced the falcon population. It had accumulated in food systems sufficiently to cause top predatory birds to lay eggs with very thin shells. Reproductive success became inadequate to replace normal attrition of adults. Traditional nesting cliffs fell into disuse. Because peregrines could be found worldwide and sometimes exhibited quite different exposure to pesticides, they were affected to different degrees. For the species, there was little risk of extinction, but the birds of Scandinavia, Britain, Germany and temperate North America suffered great reduction. All of about 350 nesting territories fell vacant in the eastern United States, and fewer than 30 pairs were known in western U.S. by 1975. In Alaska, the maritime population apparently remained largely unaffected, but numbers were sharply reduced in the interior and on the Arctic Slope.

Big Bend, Mesa Verde, Yosemite and Zion NPs as well as Black Canyon and Dinosaur NMs held a few pairs. Grand Canyon, in retrospect, was probably a stronghold, based on the large numbers seen nesting there in recent years. But in 1973, when DDT was banned in the U.S., no one appreciated how significant the parks in the lower 48 states were to peregrines. In the same year the western peregrine was first bred in captivity here at Colorado College, and since then the initial captive stock, and birds from other cooperators, have made possible the release of nearly 2500 peregrines in the West by The Peregrine Fund and the Santa Cruz Predatory Bird Group.

The DDT ban was crucial. Although DDT still flows in their ecosystem, peregrines now contain less, and their eggshells are thicker—thick enough in most regions to allow normal reproduction. The massive releases of captive bred birds surely helped assure a speedy expansion. Banded released birds, including in a few states wild young hatched in captivity, comprised up to half of nesting adults in the late 1980s. Eyries became re-occupied, the new birds using the same ledges left vacant years before. After 1985, searches for pairs became more and more successful and counts rose dramatically. NPS biologists such as L. Hayes in Zion NP (UT), J. Connor in Canyonlands NP (UT) and S. Petersburg in Dinosaur NM (CO) took special interest and documented the growing population. This year, estimates for the West will surely exceed 700 pairs, and about 100 pairs will have nested east of the Mississippi.

Even many cities across the country host the peregrine.

No doubt the substantial numbers in the eastern United States are due to releases, though perhaps without any releases birds from Canada would have gradually recolonized the old sites. In the Southwest, where the first thorough surveys in the 1980s discovered many pairs, an unknown reservoir probably persisted in Arizona and northern Mexico. Eventually, they likely would have expanded to re-establish the magnificent bird throughout the West.

Because of this, I suspect we should not give ourselves too much credit for the remarkable outcome now taking place. Surely captive breeding and releases were herculean efforts; private funds and agency spending made it happen. But the work largely increased the rate of recovery, not the ultimate result.

We now know that even thin-shelled eggs hatch in the wild. And unless shells are about 17 percent thinner than normal, production of young is mainly unimpaired. Adult mortality proved to be unexpectedly low and, coupled with the strong reproduction we now see nearly everywhere in the West, there should be little surprise at the rapid increase. Already Zion NP, Glen Canyon NRA, Canyonlands NP, and Dinosaur NM have almost all the peregrines they can hold.

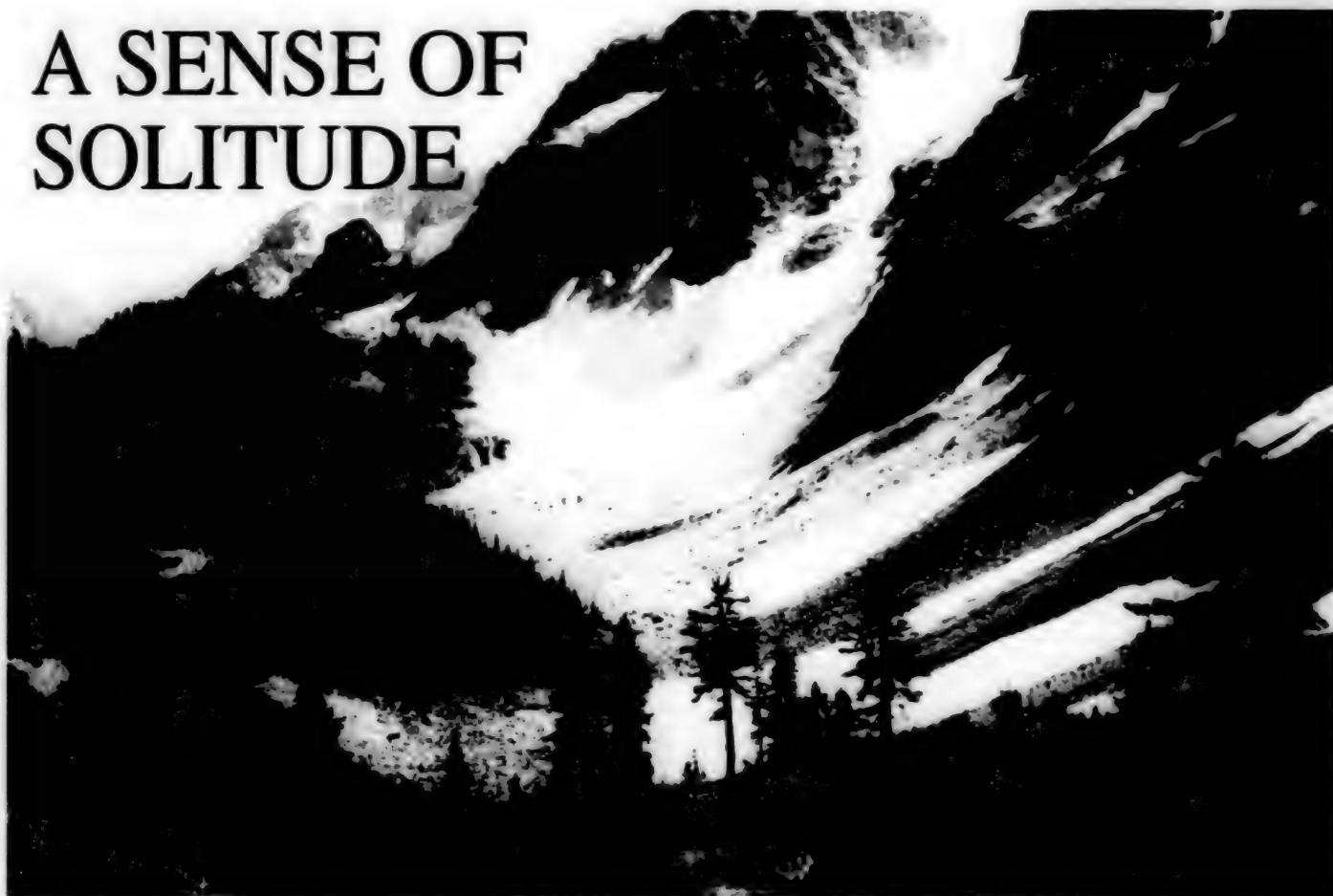
All the same, the peregrine falcon nesting south of the tundra continues to be listed as endangered under the Endangered Species Act, in disregard of the phenomenal increase of the bird. The Fish and Wildlife Service Recovery Team recommended downlisting to "threatened" in regions of the West and complete delisting in the Southwest early in 1991. But there has been widespread resistance to changing the status, most of it seeming to stem from a parochial view of population "recovery."

There is no objective way to estimate "recovery" because in the West the historical status of the bird is unknown. Events of the last decade show the peregrine is rapidly increasing, so much so that absence from a few historical nesting cliffs here and there or failure to meet arbitrary local goals for recovery are not ominous signs justifying continued listing. Since the Act was designed to protect species obviously headed for extinction, the bird should be delisted. Then, the important responsibility of the parks can become the systematic monitoring of resident pairs.

For the peregrine, the broad picture of the last decade has been one of rapid population growth and increasing expansion—information we've gained thanks to the bird's careful, intensive monitoring. The peregrine's future is surely secure owing no doubt to the haven provided, in those crisis years, by the parks in the West.

James Enderson is the leader of the Western Recovery Team for peregrines. He is professor of biology at The Colorado College and has researched falcon biology for more than 30 years.

A SENSE OF SOLITUDE



WILDERNESS MANAGEMENT IN THE PACIFIC NORTHWEST.

As you stand on the charcoal-colored lava flow, the hot wind sears your face. Scanning the horizon, you see no sign that anyone else exists in the entire world. Emptiness. Desolation. But, looking at your feet, you discover several little plants hanging on among the sharp, broken lava rocks and, among them, a spider hurrying after its quarry. You find yourself caught up with curiosity, a need to explore further, and a sense of wonder at what you are discovering.

The 43,243-acre wilderness at Craters of the Moon NM (ID) was established when the 1964 passage of the Wilderness Act, the first wilderness designated in the national park system. Wilderness in North Cascades, Mount Rainier, and Olympic NPs came with the Washington Wilderness Act of 1988. Much of Crater Lake NP has been recommended for wilderness and, in accordance with NPS Management Policies, is managed as such.

While the NPS mandate is to conserve resources unimpaired, and to provide for their enjoyment in such a way that they remain unimpaired, the Wilderness Act adds an additional mandate, calling for us to preserve outstanding opportunities for solitude and an appearance that the area has been affected primarily by the forces of nature rather than civilization. Thus, designation as wilderness adds solitude and primitiveness to the nationally significant values for which a park area is to be managed.

At North Cascades, established zones provide different levels of solitude to wilderness visitors.

How do we carry out these mandates—to preserve an area where (1) natural forces predominate, (2) the imprint of modern civilization is largely unnoticeable, and (3) there are outstanding opportunities for solitude?

The Servicewide Task Force on Wilderness Policy and Management issued a status report on wilderness management in the national park system. The task force also made a number of recommendations: (1) designate wilderness coordinators at the WASO and regional levels; (2) develop and implement management techniques appropriate for wilderness; (3) ensure that the nature and amount of use are within the capacity of wilderness resources; (4) educate and train wilderness management personnel; (5) educate the public; and (6) establish interagency coordination and consistency.

Under the leadership of former Regional Resource Management Specialist Ed Menning, the Pacific Northwest Region enthusiastically embraced these recommendations and developed an action plan to carry them out. Parks have worked hard to ensure that the wilderness values we have been entrusted with will be preserved for future generations. They have made tremendous strides in reversing the deterioration of wilderness resources. Yet some formidable challenges still face us.

Teamwork is imperative. It requires the support of all park divisions, bringing each division's and each person's expertise to bear in working together toward a common objective.

The first step in wilderness management is a wilderness management plan. A good plan requires participation by everyone involved in carrying it out, including park staff, other agencies, and the public. The plan defines objectives, describes overall strategies, presents a specific plan of action for carrying out the strategy, and delineates the roles of various people in ensuring its success. A comprehensive wilderness management program has a number of essential components:

KNOWLEDGE OF WILDERNESS RESOURCES. Inventories of topographic features, geological structure, water quality, plant and animal species, and air quality should be done, with baseline studies to determine the normal range of variation in water flow and quality, wildlife movements, and other dynamic resources. Research is needed to enhance understanding of these resources and their interrelationships.

Wilderness values are also sociological in nature. Baseline information should be obtained on current social factors, inventories of the current levels and distribution of use, research to define factors affecting solitude, and studies of the value of solitude and other wilderness resources to various cultures.

MONITOR RESOURCE CONDITIONS. A technique used to help ensure that wilderness values will be conserved over the long term is to establish standards for certain resources. This approach is elaborated upon in publications on the "Limits of Acceptable Change (LAC)" or "Visitor Impact Management (VIM)"—both involve essentially the same methods.

At North Cascades, resources for which standards have been established include: trail conditions; bare ground at campsites; number of sites evident at each camping area; quality of adjacent water; property damage by wildlife; and contact with people. Resource conditions are regularly monitored and compared against the defined standards. This monitoring is most often done by backcountry rangers. Conditions that approach or exceed the allowable standards indicate a need for corrective management action.

VISITOR MANAGEMENT. Management of human use is fundamental to provide solitude and address the cause of resource impacts. Human use should be managed wherever, without management, it would reach levels that may impair resources or solitude. Use can be managed in terms of the number of people per day, concentration of people (party size), spatial distribution, or timing. Management can address the characteristics of use, such as whether livestock or campfires are present. Management can also give special attention to particularly sensitive areas, such as the habitat of rare or easily disturbed species, or times when resources are particularly susceptible to damage. Each park in the Pacific Northwest Region has established zones providing different levels of solitude to wilderness visitors. At North Cascades, these zones are: day-use, trails/established camps, crosscountry I, and crosscountry II.

While the size of a parking lot or other indirect methods can be used to manage visitor numbers, use most often is managed



When people leave the trail for a better view, to look more closely at some flowers, or to sit on a boulder for a picnic, trails proliferate. There is little solitude.

through a permit system. Permits provide a way for levels and distribution of use to be monitored also. Mount Rainier, Crater Lake, and North Cascades NPs cooperate with the Forest Service in issuing permits for hikers who cross jurisdictional boundaries on the Pacific Crest Trail.

Visitor use management also occurs on a smaller scale, such as in prohibiting cutting across switchbacks or requiring people to stay on trails in areas that are sensitive to damage. An example is the subalpine meadows at Mount Rainier NP, where footpaths can quickly proliferate when people leave the established trail. Sociological research there has shown that the presence of a uniformed employee is the most effective means of getting people to stay on trails. The next most effective method is to use signs that threaten a fine.

INTERPRETATION AND EDUCATION. Interpretation provides essential understanding and appreciation for the values of wilderness, the impact of human use on these values, and the ways to minimize these impacts. We need to reach people before they come to the park, so they will be well prepared for a wilderness trip. The NPS and the Forest Service jointly operate an information center in Seattle that helps to accomplish such outreach.

It is also essential to reach people who may not intend to visit a park wilderness. We need to convey an understanding of why they should care about the well being of wilderness, the threats it faces, and what we are doing about those threats as we work to conserve wilderness for the future.

RESTORATION AND MAINTENANCE OF WILDERNESS RESOURCES. The Wilderness Act gives special emphasis to our mandate to preserve ecosystems primarily affected by the forces of nature. Olympic NP is making a heroic effort to remove dams that have cut off salmon runs and the tremendous upstream flow of nutrients they represent. All of the parks have programs to control exotic plants and other species. Olympic is working to eliminate the impact of alien mountain goats intro-

duced before the park's establishment. It also has developed and implemented an exotic plant management plan, which includes a system for ranking exotic plant species.

The Wilderness Act adds an additional mandate, calling for us to preserve outstanding opportunities for solitude, while keeping the influences of civilization at a distance. Protecting resources in this way is a challenge, especially at high elevations. Olympic NP permits campfires only below 3,500-foot elevations; the other parks do not permit any campfires in the backcountry. At about the 10,000-foot level on two popular routes for people climbing Mount Rainier, solar toilets reduce the volume of human waste, which is periodically helicoptered out of the backcountry. Above this elevation, people manage their waste on a "pack-in, pack-out" principle.

Water bars and other drainage structures must be diligently maintained to prevent trail erosion. Careful location and design of trails can prevent maintenance problems caused by too much water or by water accumulation in puddles or mudholes that hikers circumvent. Trail crews on the west side of Olympic, where annual rainfall may exceed 100 inches, are experts in managing water on trails.

In many areas, evidence of past overuse and abuse is beginning to fade. In each of the three park wilderness areas in Washington, visitor use is concentrated to established trails and campsites. In the harsh subalpine environments where natural recovery is very slow, active restoration has been undertaken. Seeds and cuttings of heather, sedges, lupine, bistort, and other subalpine species are collected in the vicinity of an impacted area and propagated in a park greenhouse. Areas where soil has eroded are laboriously brought back to grade, and the seedlings planted. The techniques have been developed through experimental management, and the results are constantly monitored.

ADMINISTRATIVE ACTIVITIES IN WILDERNESS. Wilderness parks in the Pacific Northwest follow a "minimum tool" approach. Each of the parks has established minimum tool guidelines on the administrative use of chainsaws and other mechanized equipment, helicopters, fixed-wing aircraft, motorboats, and snowmobiles. They also have written guidelines on patrol cabins, work camps, and radio repeaters in wilderness.

TRAINING. Training is a critical component of wilderness management. Participation in a park's wilderness management program and support for wilderness policies do not depend on whether employees "believe in" wilderness mandates, but are a matter of carrying out our responsibilities under the law. Employees at all levels must understand the wilderness management program and their role in it. Seasonal employees at Mount Rainier, North Cascades, and Olympic NPs receive in-depth training in wilderness management. Mount Rainier has developed a training video on their subalpine restoration program to help ensure that the complex techniques that have been developed can continue even with staff turnover. Several NPS employees from Pacific Northwest parks also have helped develop the correspondence course in wilderness management now offered by Colorado State University. To gain state-of-the-art knowledge in wilderness management techniques and concepts,

the regional office provided funding for each park wilderness coordinator to attend the May 1992 national wilderness conference sponsored by the Society of American Foresters and the four federal land-managing agencies.

COORDINATION. The Pacific Northwest Region has an active wilderness steering committee. Members include each park's wilderness coordinator, the regional wilderness coordinator, and representatives (at the park and/or regional level) of management, interpretation, cultural resources, visitor protection, maintenance, sociology, and natural resource research. People involved in wilderness management at each park regularly visit the other parks to observe their wilderness management programs and share ideas. Park wilderness coordinators work with their counterparts in agencies managing adjacent wilderness areas, and the regional wilderness coordinator works with her counterparts in the Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service.

CHALLENGES THAT REMAIN. Although Pacific Northwest Region parks are on the forefront of wilderness management in the national park system, our programs are far from adequate. The NPS is the only one of the four federal land-managing agencies without line-item funding for wilderness. To implement comprehensive wilderness management programs that fully involve all of the components discussed above, wilderness parks in the Pacific Northwest have estimated needs for funding increases ranging from \$100,000 to \$700,000 per year. Anything short of this will compromise our ability to provide a wilderness experience to today's visitors or ensure that wilderness values will be conserved for the next generation.

On a sunny summer Saturday, at a wilderness threshold about an hour from the Seattle/Tacoma/Olympia metropolis, the parking lot overflows. More than 300 people prepare to hike the five miles to beautiful subalpine meadows blanketed in wildflowers of every color. People leave the trail for a better view, to look more closely at some flowers, or to sit on a boulder for a picnic. Trails proliferate. There is little solitude.

In the crosscountry zone of the park, a local outdoor club frequently uses the same route. There are few alternatives in this precipitous terrain. A trail has developed, eroding to a depth of well over a foot in some places. This is officially a trailless zone. It receives no maintenance by the park trail crew.

We do not have a clear definition for "impairment." Some have suggested that "impairment" can be defined as the level of impact from which the site cannot recover within one year if use is removed. According to this definition, subalpine areas could withstand very little use without being considered impaired.

We have little real understanding of the effects of human activity on ecological processes and interactions in wilderness. Much more research is needed. Most of our resource standards are based on esthetics rather than ecological principles, and parks tend to accept more resource impact in areas that are more heavily used by people. Examples include the standards concerning litter, campfire rings, and vandalism to trees. It is more difficult to define the levels of human activity that will re-



We do not have a clear definition for "impairment." Some have suggested that "impairment" can be defined as the level of impact from which the site cannot recover within one year if use is removed.

sult in impairment of subsurface hydrology, soil microorganisms on which an ecosystem is based, access to critical habitats, or other fundamental processes of the wilderness ecosystem.

The biodiversity of wilderness ecosystems is in jeopardy. With advancing conversion of adjoining forests to other uses, the parks are steadily becoming island-like. Our ability to perpetuate viable populations of the full spectrum of species that make up park ecosystems, including migratory songbirds, amphibians, and spotted owls, is uncertain. While all of the parks have programs to control exotic species, fish are still being stocked in a number of high-elevation lakes of North Cascades in accordance with a "temporary" variance to NPS policies issued in 1979 and an agreement with the State of Washington. Although the variance was nullified by the Solicitor, stocking is allowed to continue until July of the year 2000 under a 1985 memorandum of understanding between NPS and the Washington Department of Wildlife.

We have done little to address day use in wilderness. Even in areas accessible for day-hiking, we have an obligation to provide the opportunities for solitude called for in the Wilderness Act.

Restoration from past and continuing overuse presents an almost overwhelming task. Staff at Mount Rainier have estimated that, at current funding levels, rehabilitation of obviously severe impacts would take decades. Where funding is inadequate to maintain trails, consideration should be given to reducing use or closing trails and campsites.

We are maintaining trail systems that were established in an earlier era. In some places, their continued maintenance jeopardizes natural and/or cultural resources. Trail systems need to be completely reevaluated.

While we have made progress in improving the consistency of wilderness management across jurisdictional boundaries between parks and the adjacent forests, management among parks

lacks consistency. Little consensus exists Servicewide as to what is meant by national park wilderness. Parks vary widely in their definitions of solitude, in their standards for acceptable resource conditions, and in their decision-making guidelines on use of helicopters, chainsaws, and other mechanized equipment. Some managers see wilderness designation as a hindrance rather than an opportunity to protect an area's special values. What is needed are consensus and coalition among managers in support of national park wilderness management.

Kathy Jope is the PNR's regional resource management specialist.

Materialism alone no longer provides the means of individual or social fulfillment. I know that I need something better. In wild places, thought, hope, and dream rise above the average; the intangible values of human heart and spirit take precedence. Indeed, the earth is the one part of the infinite in which the human species can demonstrate itself to be worthy. Living in harmony with nature can only lead to living in harmony with each other, to elimination of barriers of distrust and hatred.

Michael Frome
Northwest Wilderness &
Parks Conference
Seattle, WA

BILL MOTT: A Man for All Seasons

THE FINAL SCENARIO: As Bill Mott Passes Through The Pearly Gates, He Remarks To St. Peter, "This Place Should Be An International Park. Who's In Charge Of Your Lands Office?"

William Penn Mott, Jr., who joined the National Park Service in 1933 as a planner and later became the agency's 12th Director in 1985, died September 21 in Orinda, CA, of heart failure, following a month-long bout with pneumonia. He was 82.

When Mr. Mott stepped down as the agency's chief executive in 1989, he continued with the NPS as Special Assistant to the Director of the Western Region in San Francisco.

Over the past three years, Mr. Mott worked on a number of projects for NPS, most notably the transition of the Presidio in San Francisco from a U. S. Army post to a national park addition.

Stanley T. Albright, director of NPS' Western Region, said of Mr. Mott, "We will miss his boundless energy, quick follow through, and his self-deprecating sense of humor."

Albright also cited Mr. Mott's vision and deep concern for biodiversity, which, through his efforts, has become a major interpretive and scientific research thrust throughout the national park system.

As NPS director, Mr. Mott liked to bring opposing voices together. He visited NPS critics and invited them to conferences, usually at Yellowstone National Park. He told WASO workers that his name was "Bill," not "Mr. Mott, Sir." He "drove" a car with license plates that read "4-PARKS." He always walked to work and tried to avoid at all costs his own senior staff meetings.

While director, he dreamed up, created and single-handedly raised monies for the only privately financed career development fund for government employees—The Horace Albright Employee Development Fund. It annually makes grants to 60 to 70 NPS employees. "Mr. Mott knew what NPS people needed," said Alan Rubin, president of the National Park Foundation. "He also cared about parks everywhere and devoted his lifetime to their improvement."

During his years in office, 17 new units were created. These included Great Basin National Park in Nevada in 1987, an area Mr. Mott had studied as a parks planner and endorsed as a park in 1937.

"Bill Mott was a man of unimpeachable integrity and character, a legend within the American conservation community," said James Ridenour, Mr. Mott's successor as Director of the National Park Service. "He was the only person who held top leadership positions at the local, state, and national park levels. We will miss his enthusiasm, creativity, and inspiration."

Mr. Mott began his NPS career in 1933 as a landscape architect in San Francisco. From 1946 to 1962, he was Superintendent of Parks for Oakland, California, where he gained a national



reputation as an innovative park developer who reshaped the city with parks to enhance the quality of life for all citizens.

From 1962 to 1967, Mr. Mott was General Manager of the East Bay Regional Park District in the San Francisco Bay area, where he was instrumental in acquiring open space for park use in a fast growing metropolitan area.

An example of innovations he tried during his bay area years was his idea in the 1940s to build "children's fairyland" that would feature scenes from children's stories at various clearings. It was a great success.

From 1967 to 1975, he was Director of the California State Department of Parks and Recreation, during which time the state park

system doubled in size. Mr. Mott pioneered the hiring of women as professional state park rangers.

Before becoming director of NPS, Mr. Mott was General Manager of the East Bay Zoological Society, which oversees the Oakland Zoo and the surrounding Knowland Park in Oakland, California. He also served as President of the California State Park Foundation, a non-profit organization he founded in 1975 to acquire and develop park lands.

When he returned to NPS as director, one of his first proclamations came at Yellowstone National Park. "We've got to get the WOLF back into the park!" He never stopped saying that phrase, even at his own peril. Although the wolf hasn't returned yet, supporters no longer meet in phone booths, and the Congress is very much involved.

"Bill Mott was a true conservationist and one of the last half century's greatest defenders of the National Parks," said Paul Pritchard, President of the National Parks and Conservation Association.

A native of New York City, Mr. Mott had a BA degree in landscape architecture from Michigan State University and a master's in the same field from the University of California at Berkeley.

Mr. Mott is survived by two sons, William P. Mott III and John Davis Mott, both of California. His wife of 57 years, Ruth Barnes Mott, died last year.

Rocky Mountain Region director Bob Baker, a long-time employee and friend, spoke at Mr. Mott's funeral September 28 in Oakland. Said Mr. Baker, in part: "He challenged each of us to reach out. If you worked for Bill, you knew that you would be challenged, and you absolutely could not offer a standard approach. Nor would you want to. Because Bill not only was himself creative, he helped inspire others to create."

George Berkclacy

A REMEMBRANCE By Dony Galvin

A Contributor to the Human Spirit

The last Regional Directors' meeting led by Bill Mott was held at the Kennedy Center. A quote is carved on the outside of the building that captures the essence of his leadership. "I am certain that after the dust of centuries has passed over our cities, we, too, will be remembered not for victories or defeats in battle or in politics, but for our contribution to the human spirit."

Bill saw his contribution always tinted in the green of parks and open space, always accomplished to better our lot as humans, or more accurately, to secure our place as "plain member and citizen" of the land, as Aldo Leopold had described his ethic.

As I worked with him I never saw him absorb a fact that wasn't transmuted to an idea about parks. One morning he walked into my office, waving a copy of the Washington Post. He pointed to an article announcing some sort of missile build-up. With only a slight twinkle in his eye, he allowed that he was thinking of calling Cap Weinberger to ask for the deletion of a missile or two so that the funds could be used for parks.

Sometimes his views, publicly announced during his frequent travel to parks, were not received enthusiastically by other agencies in the department. One morning I got on the elevator at the Interior building and met an official with responsibility over the Bureau of Mines. "Did you see what your boss said yesterday?" I hadn't, but in the course of the conversation I learned that Bill, on a trip to Carlsbad Caverns, had advocated that wilderness should extend into the air space above the earth's surface, and, most importantly to my elevator companion, into the earth beneath its surface. Of course he would advocate that in complete honesty and openness, because he believed it. He did not complicate his ardor with calculation.

Working with him was sometimes like being a member of a bizarre juggling troupe. He would cast the plate of an idea into the air and the rest of us would be left to catch it. If we didn't, no matter; he had an endless supply of them. He kept throwing them up, confident that somebody in the troop would see one launched that was so valued that they would catch it. I came to watch this process with awe, sometimes horrified by the idea launched, sometimes catching one myself, sometimes simply observing the expressions of horror or rapture on the faces of my fellow troupe members.

Some of those ideas have become a permanent part of the National Park Service culture. The Albright fund started that way. Many of us thought it impossible to achieve. Bill kept at it. Eventually, and as usual, he succeeded.

The obituaries have catalogued his achievements. I need not repeat them here. I cherish the sly wit, the cantankerous commitment, the warm humanity he brought to the task. The most upset I ever saw him was over what he judged to be the mistreatment of a career superintendent at the hands of a political appointee. He would have preferred to have taken the abuse himself.

Just a few nights before he died, he went out and made a speech about parks. Eric Hoffer said that the aphorism, "Only the good die young," was a poor translation from the Greek. His corrected version was, "Only the good are young till they die." That describes Bill Mott as well as anybody I've ever known.

Mr. Galvin, Associate Director for Planning and Development, served as Deputy Director during Mr. Mott's tenure as Director.

The Horace Albright Development Fund is managed and administered by the National Park Fund.
Donations to the Fund in Mr. Mott's memory should be addressed to:

The National Park Foundation
1101 17th Street, NW
Suite 1102
Washington, DC 20036

ON A NEW POLICY WHOSE TIME HAS COME

I am a career employee with a law degree from the George Washington University. I currently am working in the Western Regional Equal Opportunity Office, after getting my start with the National Park Service in 1975 in the Office of Legislative and Congressional Affairs. As a white male, I have always felt it was important to work hard to prove I am committed to the principles of equal opportunity for all NPS employees and applicants. One way I have tried to do so is to let people know I am part of a minority group myself—I am gay.

There are hundreds of gay men and lesbians in the National Park Service workforce, in all occupations, grades and locations, just as there are in all segments of society. Unfortunately, most homosexuals do not feel they can safely come out of the closet at work. What they want is nothing more than to be sure they are not going to be denied the opportunity to advance because they are gay or lesbian, and to be free of the terrible stress of having to silently put up with hateful and homophobic remarks in the workplace; in other words to have equal opportunity apply to them.

We in the Western Region have proudly taken the approach that we do not have to wait for a federal law on sexual orientation non-discrimination in order to address this issue. Since 1988 we have specifically used the words "sexual orientation" in our regional equal opportunity policy statements. Our classes on the Prevention of Sexual Harassment have discussed the issue of harassment towards homosexuals. We have treated our employees who have AIDS with compassion and education, providing a model for how to deal with this disease as it has gone far beyond the homosexual population. Many other federal agencies have taken note of our initiatives and begun to follow our lead, including the U.S. Forest Service, Peace Corps, Environmental Protection Agency, Smithsonian, U. S. Geological Survey and the National Weather Service.

Sadly, our own national office is not following. At the recent Regional Directors meeting, a very eloquent presentation was made on the importance of a national policy similar to the

Western Region's. The response was a memorandum dated August 20, 1992, for the signature of the Assistant to the Director for Human Resources and Associate Director for Budget and Administration. This memo informed all regional equal opportunity managers that the Equal Opportunity Office will not establish a Servicewide non-discrimination policy based on sexual orientation. (It) further stated that "in a note dated August 17, 1992, the Director agreed with our position." The rationale was that since there's no law protecting sexual orientation, NPS chooses not to have a policy on the subject.

While it is true that if a discrimination complaint were filed it might not be accepted if it went beyond NPS to the Department of the Interior or to the Equal Employment Opportunity Commission, there is no reason why our agency could not establish a national policy which simply states that the National Park Service will not discriminate against our gay and lesbian employees. The Federal Labor Relations Authority has clearly ruled that "the fact that an agency is not required by law to refrain from discrimination based on sexual orientation does not mean that it cannot agree to refrain from such discrimination." (39 FLRA No. 29, 1991).

The memorandum went on to state "we applaud the efforts of Stan Albright and the Western Region in this area and feel that because of its location and the population it serves that it is appropriate for the Western Region to be involved in affirmative actions to ensure that persons do not suffer discrimination because of their sexual orientation." Just what exactly does this mean? That gays and lesbians only work for the NPS in the Western Region? That it is O.K. to discriminate in other regions? That fairness applies only if there are "enough" of a minority group to worry about? This is akin to saying that since there are more African Americans on the East Coast than the West, equal opportunity only applies to African Americans in the East.

This all feels mean-spirited and ignorant of reality, especially coming from those who are being highly paid by our tax dollars to be enlightened and on the pro-active side of equal opportunity. It should have been obvious to them that gays and lesbians in remote and less tolerant locations are much more likely to experience discrimination without a support group, and less likely to feel safe in bringing it to anyone's attention.

I call on all gay and lesbian NPS employees to come out and ask your regional directors and EO Offices to take the same progressive steps as we have in the Western Region. Write to the Director and tell him you are part of the NPS family and you feel our family values should include a policy that does not leave you out, regardless of whether Congress has passed a law on the subject. I ask those of you who are understanding and caring heterosexuals to please do the same. The National Park Service is already the custodian of many sites related to America's civil rights movements. It is high time we stood firmly on the right side of this one.

Don Henry is an equal opportunity specialist in the Western Regional Office.

BY DON HENRY

SUPPORTING VOICES...

Estimates vary on the number and percentage of gays and lesbians throughout the United States, but the common estimate is 10 percent of the population. Gay and lesbian employees work throughout the National Park Service. If San Francisco is known to be more tolerant than other locations, logic would dictate that protection from discrimination is *more* necessary, not less, in other parts of the country. The National Park Service is one organization. We encourage our employees to move throughout the Service. A policy against discrimination needs to be a Servicewide policy...

But a Servicewide policy against discrimination based on sexual orientation is not just for those who identify themselves as gay or lesbian employees; it is for all of us. We all know sexual orientation has nothing to do with job performance and the ultimate accomplishment of the National Park Service mission. We are all diminished by condoning discriminatory treatment. We all gain from taking a stand for human decency and respect, for coming out of our various closets, and for supporting each other in all our diversity.

Rebecca Mills, EO Manager
Western Region

This issue doesn't involve just the National Park Service. I've talked to people in Fish & Wildlife, USGS, and state agencies. The general feeling is that they're not going to lose their jobs if they come out but it's the subtle things—how it influences promotion potential and job assignments. So a lot of people have to lead double lives. They're always on guard, for example, constantly watching their pronouns when they talk about the weekend. The need for a policy statement is to assure that management will not tolerate any form of sexual harassment either against straights or gays.

Doug Cornell, DSC

Our regional director is 100 percent in support of a policy protecting against all existing forms of discrimination, including sexual orientation. In fact, this region intends to have a policy in effect very soon. We hold training courses now on diversity, and this question is coming up more and more. The point I like to make is that protection for sexual orientation goes back to the basic merit principles of government employment: you do not make any decisions about employees that are not job related, and if you do, you are carrying out a prohibited personnel practice.

Eleanor Pratt, EO Manager
North Atlantic Region

Non-discrimination for sexual orientation is important:

Because discrimination, misunderstanding and intolerance do exist in the National Park Service, whether people choose to recognize it or not;

Because people are afraid of revealing their sexual orientation for fear of what others might think, say or do;

Because honesty is far less stressful than hiding in a closet;

Because gays and lesbians should be recognized for the quality of their work, not their sexual orientation, and they should not have to fear reprisals for being who they are.

Greg Sorenson, DSC

I believe that the only basis for evaluating employees should be their job performance, and that all other factors, including physical, mental, cultural and lifestyle preferences represent discrimination regardless of the existence of law or regulation.

Rick Shireman
Facility Mngt Specialist
Training

I know a number of dedicated National Park Service employees outside the Western Region who have felt fear, isolation and outright discrimination based on being gay or lesbian. Because most work under fear of retribution or intimidation with no specific protection preventing harassment or discrimination, most remain silent. For those of us where the risk of visibility is less threatening, it is important to make our presence known. As a lesbian park ranger who has worked in the Western Region and outside of it in other regions, I can attest that there is a definite need to adopt a Servicewide anti-discrimination policy for gays and lesbians in the National Park Service. For one voice that comes forward there are probably fifty others that remain silent.

Jane Moore
Golden Gate NRA

Even though it's not a Title 7 issue, this doesn't mean it's not an employee issue. We have the opportunity to be on the cutting edge with this.

Magaly Green
Harpers Ferry Center EO

The Mid-Atlantic Region was an uncomfortable place to be when I realized I was a lesbian. The comments and jokes directed at the one openly gay employee at my park testified to the prevalence and acceptance of attitudes of intolerance and hate. I was even told that employees have been blacklisted because they have been gay or lesbian, thus killing any hope of career advancement. It is precisely these reasons that a national nondiscrimination policy should be implemented by the National Park Service. If it is an appropriate policy for the Western Region, why then is it not appropriate for the other regions and offices of the National Park Service?

Nancy Fischer
Western Region

As a program manager and an EO committee chairperson, I am committed to providing a quality workplace for all... The diversity of the North Atlantic Region's workforce is surely one of its greatest strengths. Within that workforce there is a community of gay and lesbian employees working in a wide variety of occupations and disciplines. I am pleased that the North Atlantic Region intends to follow the lead of the Western Region by helping to make our work environment a place of dignity and non-discrimination.

John Piltzecker
Boston NHP

It's disappointing that the National Park Service doesn't have a national policy on this. It goes against one of the greatest assets

of the Service and certainly one of the top reasons I work for the NPS: the closeness and the caring nature of the NPS family. The lack of such a policy is dehumanizing not only for gays and lesbians but for everyone who works for the NPS.

Katie Lawhon
Lowell NHP

Sexual orientation is determined at conception. It can not be "cured" or changed nor should it be. It should be protected by legislation... For the moment, I am glad that the Western Region is ahead of most other agencies on this issue and is working to get a non-discrimination policy approved for all the NPS.

Skip Wheeler
U.S.S. Arizona Memorial

A policy of non-discrimination that's available only in the Western Region assumes there are no gay employees working elsewhere in the Service. Unfortunately, a Western Region policy doesn't do me any good in the Mid-Atlantic Region. The potential for discrimination exists everywhere. Studies certainly have shown that a good deal of discrimination is based on negative stereotyping and that these stereotypes are more quickly dispelled in an open environment. So a goal of a national policy should be protection against discrimination, which then can lead to the kind of environment where stereotypes can be dispelled.

Doug Thompson
Colonial NHP

In my experience, maintenance people tend to be less open about gay issues and the idea of diversity in the workplace. I feel lucky that my current supervisors are sensitive to these concerns but I dread the day when they move on and I have to face the harassment of locker room style comments again under potentially less sensitive supervisors.

Jack Lee
Golden Gate NRA

The Western Region's non-discrimination policy for sexual orientation is an official and informative way of letting current and future employees know that discrimination against gay and lesbian employees will not be tolerated in this region. We need a similar policy at the national level. Perhaps those in Washington need to be reminded that such a policy is not an endorsement of homosexuality but a simple, necessary policy that will help protect NPS employees while at work.

Margie Andreco
Sequoia NP

Seasonal employees are particularly vulnerable because of the nature of the employment, and being a gay seasonal employee makes me feel even more vulnerable to discrimination. So many seasonals work throughout the NPS that it's crucial for gays and lesbians to have this protection everywhere. Not only would it provide a feeling of greater safety, but it would help educate supervisory personnel that gays and lesbians are a positive, contributing part of the Park Service fabric that serves all Americans.

Sammy Zoeller
Yosemite NP

I definitely support a Servicewide policy of non-discrimination for sexual orientation. I can't think of another NPS policy that's so limited to one geographic region.

Diane Spriggs
WASO EO Office

NOTE TO READERS: Don Henry wrote to the "Courier" to express his concerns about a form of prejudice. We concluded that it was an important issue that deserved attention.

Prejudice, loosely defined, is the assumption that characteristics commonly attributed to a group (fairly or not) apply to an individual who is a member of that group. In turn, that assumption can be used to the detriment - or benefit - of that individual. Certain specific categories of people are regarded as "identified classes" because these groups are considered particularly susceptible to prejudicial treatment.

Prejudice has no place in the National Park Service.

Individual employees and applicants should be treated according to personal characteristics and behaviors that relate to workplace performance and effectiveness. Generally, neither workplace disruption nor poor performance is acceptable, although even these may call for training or counseling rather than transfer or dismissal. Where neither behavior nor performance is at issue, other characteristics should be equally irrelevant.

The discussion of gay and lesbian prejudices on these pages represents personal views and opinions, not official policy.

The National Park Service realizes that prejudice is common, not only in this Nation, but in every society. Ethnic, tribal, and religious groups have historically disputed the merits of individuals from groups other than their own. Fashions in clothing styles, facial hair, or cosmetics; choices in neighborhoods or occupations - in short, anything that can be used to separate one group from other people, can become a basis of prejudicial treatment.

Many private businesses, including some major corporations, have adopted formal policies regarding non-discrimination toward gays and lesbians.

At this writing, the official view of the Service is that all forms of prejudice should be rooted out, but national policy on protected classes should remain limited to those groups named in existing Federal law.

Group identification - even the assignment of specific characteristics as typical of the group - is a necessary element in the discussion of human events. But workplace behavior toward employees, visitors, contractors, or others with whom we come in contact during the work day should always be governed by our perceptions of the individual, free from the assumptions we assign to any group that individual may be party to.

Duncan Morrow
Executive Editor, Courier

PARK BRIEFS



When the umpire cried "play ball" on Saturday evening, June 6, and the crowd roared in anticipation of an exciting ball game at Yankee Stadium, more than 200 NPS staff, friends and family were on hand.

Prior to the game, in ceremonies in front of the Yankee dugout, NPS Deputy Director Herb Cables presented Yankee Vice President Dick Kraft with a certificate commemorating 90 years of Yankee baseball in New York, and a color guard from Gateway NRA, Manhattan Sites, the Statue of Liberty and Ellis Island U.S. Park Police

presented the colors for the National Anthem.

It all began in the winter of 1992 when the Yankees were approached to recognize three milestone NPS anniversaries in New York: the 20th anniversary of Gateway's enabling legislation; 100th anniversary of Ellis Island; and the 150th anniversary of Federal Hall NM. The Yankees invited NPS staff to develop a pre-game ceremony, and when word of it got out, more than 200 tickets to the game were sold to eager NPSers.

Manny Strumpf

One of the Park Service's newest additions celebrated the Columbus Quincentennial and its own Spanish legacy with the sights and sounds of a Spanish military encampment. Thanks to a group of re-enactors from Pennsylvania and Jean Lafitte NHP (LA), visitors to Natchez NHP (MS) were afforded a glimpse of town life at the point when it began to evolve from a frontier river landing and military post to a prosperous port community. This "Living History Weekend" was part of a three-day series of lectures and special events.

Natchez NHP was established in 1988 to preserve and interpret

the area from its beginning as an outpost of the Old Southwest to its heyday as the symbolic capital of the "Cotton Kingdom." The park currently consists of two sites, the Melrose Estate and the William Johnson House. Completed in 1845, Melrose dates to the South's cotton culture and economy. The William Johnson House was the home of a prominent free African-American in antebellum Natchez. A barber by trade, Johnson was also an astute chronicler of daily life from 1835-1851. A third acquisition, the site of Fort Rosalie, will complete Natchez NHP.

Wendy Janssen

Pershing, Corey, and Reasonable Count are the latest additions to the Jefferson National Expansion Memorial's law enforcement division. All three are horses recently transferred to the memorial by the U.S. Park Police in Washington, DC, and used as police horses.

In addition, the park has instituted a bicycle patrol. All law enforcement rangers are authorized to use the mountain bikes for ground patrol. Putting the rangers on bikes increases the ease and efficiency of patrolling the park, provides the ability to cover more distance in a short amount of time, and is a non-polluting alternative to vehicle patrol. "By removing some of our law enforcement rangers



from the marked vehicle they traditionally use for patrol," said Superintendent Gary Easton, "and putting them on a bike or atop a horse, we make them more visible and more accessible to the public."

This year more than 2,000 people made the annual pilgrimage to the Manzanar War Relocation Center. There were two important reasons for the crowd: the 50th anniversary of the camp's opening and its dedication as the nation's newest national historic site.

These annual reunions are filled with strong emotions. Individuals held at the site relate stories of growing up in the camp, meeting spouses there, and enduring hardships. Many families lost everything while at Manzanar; others were lucky enough to have a friend or neighbor take care of their property while they were in Manzanar or one of the

other relocation camps. One attendee remembered being told the stay at Manzanar was "for their own protection," but then looked up to see that the machine guns in the guard tower faced the camp, not away from it. When another was asked what she remembered most about Manzanar she said, "the wind, it never stopped...I hate the wind."

These and other stories were told to the Death Valley rangers who volunteered to work at the dedication ceremony. Congress established Manzanar NHS (CA) on March 3, 1992. This 550 acre site is presently being administered through Death Valley NM.

Glen Gossard

Employees and volunteers of Santa Monica Mountains NRA (CA) lent a helping hand in the relief drive to help victims of the riot-affected areas of south central Los Angeles. Voluntary donations of canned and non-perishable food, clothing, household goods, furniture, toys and baby food were collected and taken to the First AME Church

for distribution. The First AME Church also responded to a request from Santa Monica Mountain NRA to participate in "An Encounter of Cultures," a multi-cultural festival commemorating the Columbus Quincentennial. The AME church choir is one of the groups that performed.



Maintenance Mechanic Leader

Larry Dirk from Santa Monica Mountains NRA helped coordinate that park area's first ever Asian Pacific Day. He invited Martha Nakagawa from the Association of Asian Pacific American Artists (AAPAA) to speak on ways in which the film industry can promote positive impressions of Asians and Pacific Islanders. When Nakagawa mentioned that AAPAA had showcased B.B. Chung King and the Screaming Buddah Heads, a blues/rock group, the Santa Monica Mountains staff who had gathered for the potluck luncheon had questions about the

possible offensiveness of the name. Nakagawa said that AAPAA originally had felt concern about the name of the group, lead by third-generation Japanese American Alan Mirikitani. Then the organization learned that B.B. Chung King started as a joke when a friend said, "Sometimes if I close my eyes, you sound just like B. B. King. But you can't be B.B. King. You have to be B.B. Chung King." Mirikitani took the name as his own. "Screaming Buddah Heads" was a reference to Mirikitani's uncle who served in the highly decorated U.S. Army Infantry Unit 442, which called itself the "Buddah Heads."

Equal Opportunity programs such as Asian Day are strongly supported by the park. Said Superintendent David E. Gackenback, "I encourage staff to seek out their own ethnic origins and develop cultural awareness. This enhances their cultural identity and increases understanding of all cultures."

The Dow Chemical Company and the

National Park Service are bringing recycling to the National Mall. This Take Pride in America program will enable thousands of visitors to recycle glass, aluminum, and plastic at recycling bins placed throughout the National Mall and other

popular downtown NPS areas, including the Washington Monument and the various memorials. The Mall is the seventh unit to participate in the program, the others being Great Smoky Mountains, Grand Canyon, Yosemite, Acadia, Mount Rainier and Everglades NPs.

Need a special volunteer job done at Muir Woods NM? Call GLS. For seven years, the Gay-Lesbian Sierrans (GLS) have conducted a service day every other month, logging thousands of hours doing trail work, exotic plant control and stream restoration.

In 1985, GLS was struggling for recognition as a legitimate Sierra Club section. Wishing to demonstrate their commitment to conservation, they contacted Muir Woods for a highly visible service project. In one day, 35 GLS

volunteers constructed fire lines and prepped the site for the monument's first prescribed burn. The day was such a success that Ranger Mia Monroe and GLS Coordinator Lauren McGuire began planning regular work days. The true showcase project came in 1988 when a major storm brought down large trees, covering 45 feet of main trail with giant trunks. GLS crews came out every weekend for a month.

Muir Woods is proud to be the home base for GLS activities and a place where all feel welcome.

Seafaring's romantic past comes to life

with new "living history" programs at San Francisco Maritime NHP. Visitors watch as rangers scale the mainmast and work aloft on the square-rigger *Balclutha*. They pitch in to raise the staysail on

the ship or sing along to sea chanteys. Crews cooper barrels and pump the decks. On *Balclutha*, visitors can view the newly remodeled deckhouse, which reflects recently discovered specifications of the ship's original 1886 configuration.

Linda Jacobi's 4th and 5th grade class

graduated from the DARE program curriculum at the Yosemite Valley Elementary School on May 28. Michelle Horner's 4th and 5th grade class from Wawona School and Community Center graduated June 4. This year marked the first time students from all three schools were able to participate in the program simultaneously.

thus enabling the DARE curriculum to reach 158 children. Yosemite NP employees Chris Cruz and Kris Bardsley were the instructors. Their training was paid for by the NPS. Other support for the program has come from the Yosemite Park and Curry Company, the Rotary Club, Ansel Adams Gallery and the National Park Ranger Lodge #23 of the Fraternal Order of Police.

Like so many rivers in America, the Saugus

has been misused and neglected. An ironworks erected in 1646 used the energy of the river to operate machinery. Since then, the river has continued to power the wheels of industry. Commercial and residential development grew up around the Saugus during the next three centuries. The fishing industry has been prevalent at the river's mouth. Up river, recreation has replaced the numerous mills that once harnessed the power of the Saugus. Today, the headwaters at Lake Quannipowitt see recreational activities ranging from small boating, sailboarding, and fishing to ice boating and swimming. A major interstate highway crosses the Saugus, and housing developments abound.

The Saugus River Symposium, a day-long series of lectures, workshops, and tours coordinated by Tufts University graduate student Robyn Snyder, attempted to bring all those interested in the future of the river together. Snyder enlisted the aid of various community

groups, watershed organizations, government agencies, and private industry. Roy Piatelli, who manages General Electric's water programs, helped support the effort. On the day of the symposium, Saugus Iron Works NHS Chief of Interpretation Frank Studinski coordinated participant displays. Workshops focused on water quality monitoring, shoreline surveys, and open space protection.

The future the Saugus River faces is similar to that of numerous rivers throughout the country. What can be done to balance recreational, residential, and industrial use against the resource's ability to remain productive and healthy? The Saugus River Symposium can be viewed as the first major hurdle on the road to a cleaner, more productive river. The ultimate success can only be guaranteed by organization and involvement on the local level. The enthusiasm displayed by participants at the river symposium seems to indicate to all that the future of the Saugus is brightening.

Phil Lupiewicz

NPS PEOPLE

NEWS & MOVES

William F. Paleck, superintendent of Saguaro NM (AZ) has been selected as the new superintendent of the North Cascades National Park Service Complex (WA). Paleck served as Saguaro superintendent since 1987. Prior to that, he was also superintendent of Southern Arizona Group, chief ranger at Wrangell-St. Elias NP & Pre (AK), chief of interpretation at Wupatki and Sunset Crater Volcano NMs (AZ), and a ranger at Hyde Park in New York.

Anna Marie Fender has been named superintendent of Navajo NM (AZ). She comes to the position from that of chief ranger at Sunset Crater Volcano, Walnut Canyon, and Wupatki NMs (AZ). Fender, who has held the superintendency in an "acting" capacity since March, officially took over the post in June. She replaces Clarence Gorman who retired after 30 years of federal service to begin a new career with the Navajo Nation. Fender was the first NPS participant in the 1987 Women's Executive Leadership Program.



Out of 6,300 women participating in a Denver 5K run/walk benefitting battered women, 32 were NPS women, wives, daughters and mothers.

The Columbine Classic, the second largest women's race in the United States, is in its 15th year, and this is the second year that a group of Denver-based NPSers have shown their support. **Vickie Walker**, one of the orga-



nizers of the NPS troop, observed, "The camaraderie was the greatest—it's not often 32 Park Service women can be at one place, at one time, and for such a good cause."

SWR RD John Cook fulfilled a career-long objective when he approved DSC construction drawings for the first phase of housing at Hubbell Trading Post in Arizona. DSC Central Team members look on (See photo above.)

Larry Aitken from DSC Chief, Branch of Surveys to DSC Chief, Division of Engineering Services; **Enrique Armendariz** from Point Reyes NS (CA) ranger to Sequoia/Kings Canyon NP (CA) ranger; **Barbara L. Burkhardt** from Roger Williams NMem (RI) ranger to Cuyahoga Valley NRA (OH) ranger; **Bob Byrne** from Independence NHP (PA) chief ranger to Bighorn Canyon NRA (MT) assistant superintendent; **Thomas B. Carroll** from SWRO special projects coordinator to Palo Alto Battlefield NHS (TX) superintendent; **Kevin Cheri** from Fort Davis NHS (TX) superintendency to Big Bend NP (TX) assistant superintendency; **Ray Clary** from Perry's Victory & International Peace Mem (OH) seasonal to Knife River Indian Villages NHS (ND) ranger status; **Roberta D'Amico** from MARO public affairs officer to Niobrara-Missouri NSR (NE) interpretive specialist; **Tracy A. Fortmann** from WASO Office of Policy program analyst to Golden Gate NRA (CA), assisting the superintendent; **Harrie R. Johnson** from Hopewell Furnace NHS (PA) ranger to

Saugus Iron Works NHS (MA) superintendent; **Randall Harmon** from Jefferson National Expansion Memorial (MO) park ranger to Chesapeake & Ohio Canal NHP (MD) museum technician; **Ward Hastings** from SERO supervisory outdoor recreation planner to MWRO outdoor recreation planner; **Shirley Hoh** from Knife River NHS (ND) naturalist to San Juan Islands NHP (WA); **Robert Kirch** from NARO to Big Thicket NPre (TX); **Susan LaPierre** from SWRO realty clerk to U.S. Forest Service; **Alan S. McElveen** from Pictured Rocks NL (MI) ranger to Assateague Island NS (MD) ranger; **Caffy Mitchell** from Grand Canyon NP (AZ) administrative officer to Yosemite NP (CA) administrative officer; **Aida Parkinson** from DSC (CO) to Redwood NP (CA) environmental specialist; **Ricardo Portillo** from Redwood NP (CA) administrative officer to Lake Mead NRA (NV); **Mary Risser** from Yosemite NP (CA) concessions to Big Bend NP (TX) concessions; **Marion Robinson** from Jefferson National Expansion Memorial (MO) ranger to Fort Frederica NM (GA) ranger; **Dave Stevens** from Rocky Mountain NP (CO) research biologist to ARO; **Larry D. Walling** from DSC Section Chief, Branch of Planning, Central Team to DSC Chief, Branch of Construction, Western Team; **Ken Woody** from Knife River Indian Villages NHS (ND) seasonal to park ranger status.

A new recruit class of 24 prospective U.S. Park Police officers were sworn in July 26 in ceremonies in Washington, DC. Following a one-week orientation the class undergoes 17

weeks of basic training at the Federal Law Enforcement Training Center (FLETC) in Georgia. Graduates will return to Washington where they will be assigned to a field training instructor for nine weeks.

AWARDS

On July 21 at Constitution Hall in Washington, DC, Take Pride in America held its sixth annual awards ceremony, honoring the 100 national winners of last year's campaign. Nine of the winners were associated with the Park Service: **Friends of the Crooked River** for a river cleanup event involving nearly 1000 volunteers at Cuyahoga River; **Judy Johnson**, president of the Committee to Preserve Assateague, for working toward legislation to protect park resources and increase public awareness of the park; **Keep Macon-Bibb Beautiful & Ocmulgee NM** for a cleanup along the park's trails and boundaries that relied on more than 10,000 volunteers; **Kittatinny Canoes** for a three-day war on river litter targeting a 62-mile stretch and two NPS areas; **Damascus Township Recycling Committee** for creating a recycling center; **Lake Meredith NRA & Alibates NM** for a partnership with the Texas General Land Office to organize an annual cleanup; **Monacacy Watershed Conservancy** for a river cleanup that removed approximately 100 tons of trash; **Shenandoah NP** for educating the public, serving as a responsible model of good stewardship and forming meaningful partnerships; and **Yosemite Park**

& **Curry Company** for their educational program informing visitors of park regulations and the cultural and natural resources of the area.

Dario Bard

WASO Environmental Quality Division's **Khryn Klubnikin** was chosen by the National Academy of Sciences in a nationwide competition to participate in the "Russian-American Young Investigators' Exchange in Biodiversity 1992-1993." The 1992 portion of the exchange was conducted in northern California, where the team from the Russian Academy of Sciences met their American counterparts. Both teams travelled together to look at different ways the U.S. conserves species and habitats, and the role of scientists in public environmental policy.

Staff from four NPS areas (Golden Gate NRA, Lassen Volcanic NP, Redwood NP, and Point Reyes NS) provided valuable assistance in explaining their parks and research programs to the Russians. In 1993, the American team will travel to Russia to work with their colleagues on biodiversity issues.

Larry L. Norris was honored by Petrified Forest NP (AZ) Superintendent Gary T. Cummins for his efforts as team leader for the park's general management plan (*photo below*). Cummins stated that this project was "the best working relationship he'd experienced with the Denver Service Center."

Grand Teton NP ranger **Scott Berkenfield** received an Outstanding Humanism in the Ranger Profession award from his peers. The award recognized his ability and his willingness to assist visitors and members of the park community who are experiencing hardship or loss.

Lincoln Boyhood NMem Superintendent **Paul D. Gurnedy** and Park Accessibility Coordinator **Randy Davis** recently presented a framed, matted print to the **Evansville Association For the Blind**. The presentation ceremony was conducted to recognize the Association for its recent work helping the park meet accessibility goals. Lincoln Boyhood NMem now provides sight-impaired visitors with braille text on all museum displays and exhibits. Randy Davis also reported the completion of several other accessibility projects, including new accessible picnic tables, a redesign of the front entrance walkway to the Lincoln Living Historical Farm cabin, new international symbol accessibility signs, and the use of a sign language interpreter for special park events.

The 1992 Rocky Mountain Natural Resources Award winners are: **Mike Tranel** of Timpanogos Cave NM (UT), **Wayne Hamilton** of Yellowstone NP (WY), and **Denny Huffman** of Dinosaur NM (CO).

DSC Operations Deputy Assistant Director **Caleb G. Cooper** received the Engineering Achievement Award from the Denver Federal Center Professional Engineers Group. The award recognizes lifelong dedication to quality in the federal engineering community.

Director Ridenour recently presented a plaque to **Mrs. C. Snowden Conkey**, President of the 50 Year Club, National Society, Daughters of the American Revolution for the support shown by DAR to the area of conservation.



RETIREMENTS

More than 50 people gathered at the end of June to help **Margaret T. Davis** celebrate her retirement after 27 years of dedicated service to the NPS. NCR RD Bob Stanton detailed her career which began in 1965 as an office manager for the National Capital Region Potomac Task Force. In 1971 she started work for the National Park Foundation. Margaret was the Foundation's first full-time employee. She returned to the Service in 1978 to work for National Capital Parks-East. Margaret has received numerous awards and commendations for her dedication to her work and contributions to the Service. Upon retirement, she plans to continue her involvement with E&AA as well as the other organizations to which she has devoted her energy and time.

■

Lewis Cutliff recently retired from Mammoth Cave NP (KY) after a distinguished 35-year career. At his retirement dinner, he was honored as the Southeast Region's first recipient of the Sequoia Award. Conceived under the directorship of William Penn Mott, Jr., the award recognizes NPS employees who have strived for excellence in interpretation.

Lewis' retirement was not only a turning point in his life, but also a turning point for the park. He was the last NPS employee born within the current park boundaries, and the last NPS employee at Mammoth Cave to feel strong family ties that bound him and his ancestors to the area for four generations. Few of us can pretend to replicate the kind of personal commitment to the park that a history of attachment to the area can create.

Lois Winter

■

After a 32-year NPS career, Park Historic Preservation Chief **John Bond** is retiring. His first NPS assignment was as a historian at Petersburg NMP (VA). From there he went to Pea Ridge NMP (AR), Jefferson National Expansion Memorial (MO), Home of Franklin D. Roosevelt and Vanderbilt Mansion (NY), and the Washington Office among other areas before he transferred to the Mid-Atlantic Region and his varied responsibilities there.



DEATHS

Margaret Johnson Patterson Bartlett, 88, great-granddaughter of Andrew Johnson, the seventeenth president of the United States, died at her Greeneville, TN, home July 30. She was photographed September 9, 1974, with then-Secretary of the Interior Rogers C.B. Morton (l) and then-NPS Director Ronald Walker (r) shortly after receiving her 30-year pin and a special meritorious service award (*photo above*). Mrs. Bartlett was an interpreter at Andrew Johnson NHS from April 3, 1942, until her retirement October 9, 1976. She and her mother were instrumental in guiding legislation through Congress that led to the establishment of Andrew Johnson NHS.

■

Angela Davis, 41, died of cancer July 13 at her St. Louis apartment. A former NPS ranger at Yosemite NP and Jefferson National Expansion Memorial during the mid- to late 70s, she left the Service to become an award-winning television producer and writer. When Davis learned last summer that a bone marrow transplant was her only chance for survival she took on Blue Cross & Blue Shield, eventually winning a court battle that ordered the insurer to pay for the treatments that it had argued were experimental. A long-time board member of the Missouri Prairie Foundation, Davis is survived by her parents and three sisters. Donations in her memory

may be sent to the Prairie Foundation at P.O. Box 200, Columbia, MO 65205.

■

E&AA Life member **Louis Kirk** died at home on February 26, 1992, of a massive brain aneurysm. His NPS career spanned from 1948 beginnings at Wind Cave to 1967 at Olympic NP, when he left the Service to become a producer for PBS television in Tacoma, WA. His widow, Ruth may be reached at P.O. Box 5610, Lacey, WA 98503.

■

Edwald Hayes, 88, died recently in Rapid City, SD. He operated the cable car for Mount Rushmore sculptor Gutzon Borglum during the final seven years of carving.

■

Joseph R. Murphy, 67, a seasonal interpretive ranger at Yellowstone and Grand Teton NPs for many years, died in Utah on June 17. His family asks that contributions in his memory be made to the Grand Teton Natural History Association or the M. L. Bean Life Science Museum at Brigham Young University.

MEMBER NEWS

Ranger John Townsend represented the NPS as a participant in the Law Enforcement Torch Run for the Nebraska Special Olympics that started at Scotts Bluff NM and ended in Omaha six days later.

Merril (Dave) and Jean Beal (835 Bell Ln, Gatlinburg, TN 37738) have moved back east following Dave's retirement as assistant director of the Arizona Sonora Desert Museum. The Beals spent 8 1/2 years enjoying Tucson, the Museum, and travelling. While in Tucson, Jane worked at the NPS Western Archeological & Conservation Center where she cataloged artifacts for the Faraway Ranch refurbishing project at Chiricahua NM (AZ). The Beals claim "this second retirement will probably 'take'."

Bob and Mary Whistler are enjoying retirement near Padre Island NS (TX). They volunteer their time to do curatorial work at the Corpus Christi Museum of Science as well as at the national seashore. From Bob also comes news of Jim McLaughlin, who retired from Sequoia/Kings Canyon NPs. He is in Nevis, West Indies, working for the Peace Corps, developing an environmental curriculum for the public schools.

Courier Alumni Editor Naomi Hunt recently enjoyed the fabulous scenery of the Pacific Northwest parks. Among those she visited were Park Science editor Jean Matthews-Holt and her husband, Russ, as well as former DSC architect Per Rundberg and his wife, Karen.

Louise Carpenter (3212 Louraine Circle, Santa Fe, NM 87505), widow of J. I. (Jim) Carpenter who died June 7, remarked that the Park Service is a wonderful family, and she and Jim were proud to be part of it.

Lars and Gayle Garrison, and Karen and Eldon Reyer want to thank Tom Ela and Dick Crysdale for their help in honor-

ing Lon Garrison. Tom spent most of a year pouring through the thirty or more file boxes of Lon Garrison's personal papers. He read and organized the collection, which ultimately was donated to the Special Collections Unit of the Strom Thurmond Library at Clemson University. Tom's knowledge of park people and Park Service history helped him bring some semblance of order to Garrison's filing system. Dick Crysdale did the background work and prepared the material necessary to nominate Lon to the National Recreation and Park Association Hall of Fame.

Gwen Deal-Bagley has invited NPS friends to visit her at her new address (Valley View Retirement Community, 1130 N. Allumbaugh St., #219, Boise, ID 83704-8796). When her husband, George, died last year, she continued to live at their home in Idaho until her family helped her resettle at her new address.

Tom and Betty Ela (1208 Placita Loma, Santa Fe, NM 87501) celebrated their 50th wedding anniversary on August 27 in Yellowstone NP. The event was hosted by their three children.

Flora Semingsen (1170 W. Wabash St., #9, Tucson, AZ 85705) fell and broke her hip at the airport when returning from a vacation covering seven states, two national parks, and the Oregon coast. Her hip is healing well, perhaps in time for another trip before too long.

When Edmund (Ted) Bucknall and Jean Christensen married in 1990, they planned to winter in her home in Tehama, CA, and summer at a place Ted rents at Fort Bragg, CA. However Ted says that with their travels they seldom spend much time at either place. Ted retired from Yellowstone NP in 1979 as a resource management specialist.

Maude DeTurk Allen (262 Mockingbird Circle, Santa Rosa, CA 95409-6240),

widow of Tom Allen, reports she stays active with the Oakmont Visual Aids Workshop for the Blind, Garden Club, Book Review and choir practice. She also has published a little book of poetry and memoirs. Maude passed on the news that Tom's great nephew, Michel Lee, is the regional manager for the Northern Region of Alaska's state park system.

Bill Dean (9511 Park St., Omaha, NE 68114), who retired as MWRO associate director for recreation service and external affairs in 1983, visited the Midwest Archeological Center with a film crew on June 26 to take footage for a recruitment film concerning jobs within the national parks.

Ellen M. Peel, a former personnel management specialist at Gulf Islands NS who left the NPS to complete a law degree, has been accepted into a specialized legal program at the University of Washington in Seattle. Ellen is a Life member of E&AA. Her son, Philip, is working toward his undergraduate degree at Florida State University.

Phyllis Freeland Broyles reports that her mother, Bea Freeland (601 Pope Street, #229, St. Helena, CA 94574), remains interested in everything. Phyllis' daughter, Bea Broyles Backenberg, had a son July 16, and Elizabeth, her other daughter, is expecting. Her nephew, Dixon David Freeland, married Chris Lane. The couple is stationed at Flamingo, Everglades NP.

LAST WORD FROM THE EDITOR

What does it mean to say good-bye? It means to have hope in the future that will be created without you, and the future you plan to create for yourself. In this sense, good-bye is positive, affirming, the thin line which is the threshold upon which change occurs.

To say good-bye also is to recognize that there is something to bid good-bye to, something that has had powerful significance to the person you are and, without which, you will experience your days differently: they will have a different color, a different tone, and you will be haunted by an absence, an empty space.

To say good-bye is to face risk, because the future may not be as you plan—seldom is. It has its own ideas about change, its own bends in the road. But it is *your* future, nevertheless, and thus the surprise that accompanies it belongs to you, shapes you, toughens you, keeps you traveling on.

Each of us writes our futures daily through a thousand unremembered acts that take us farther and farther from the place where we began—first steps carrying us away from dependence, first day of school taking us farther yet, first success or failure, first time we said "yes," first time we acknowledged the painful importance of saying "no"—thousands of good-byes to whom we once were as we step away toward whom we are to become. But ideally those good-byes strengthen us. They carve wisdom into our faces, our hands, our hearts.

And wisdom is the goal after all because, without it, we cannot nurture those who follow. We cannot urge them to take the thousands of small, hard, fearful daily steps that build lives of character and purpose unless we, too, have taken those steps, and stand before them, farther up the road, an example.

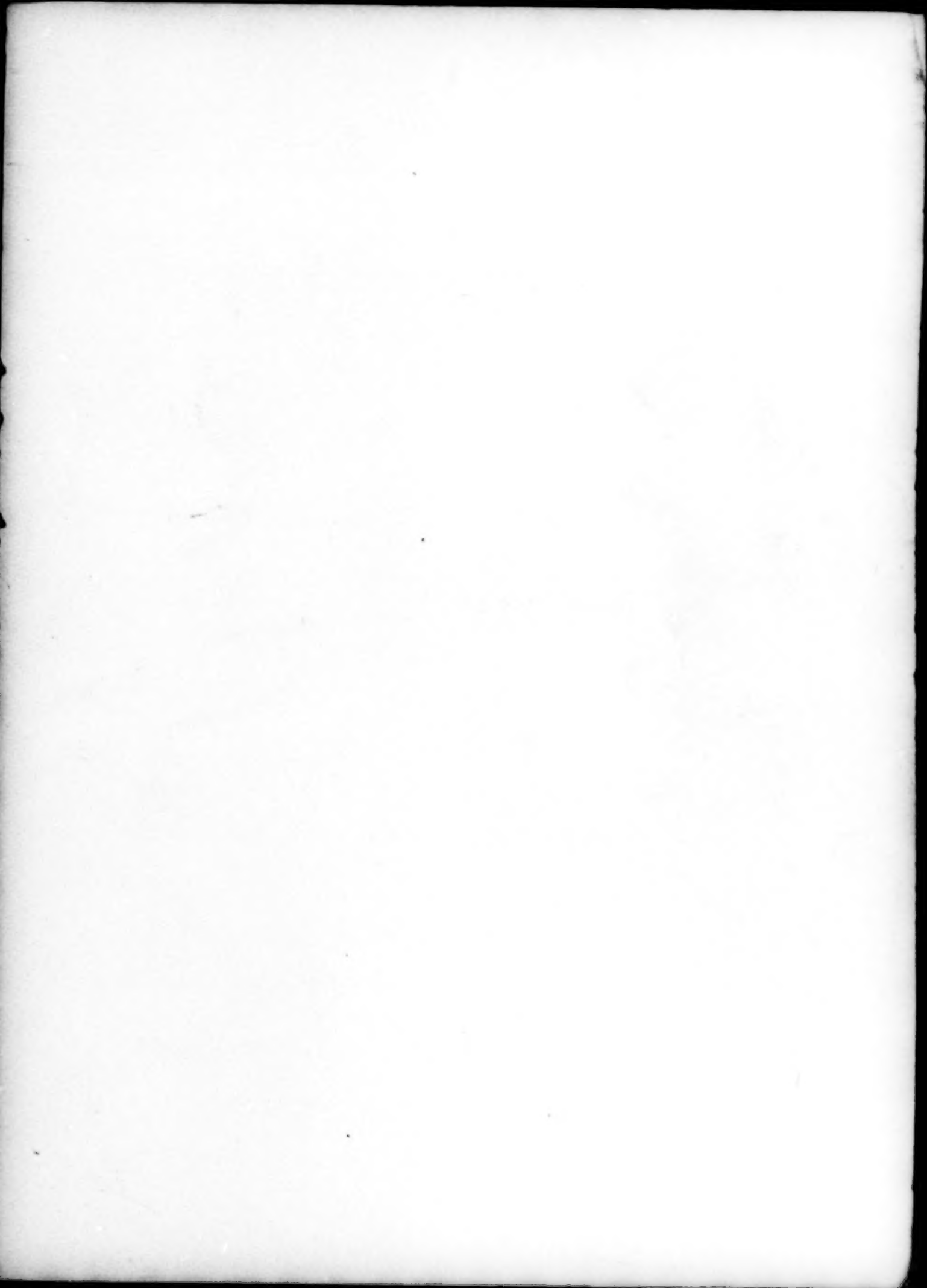
For me, managing *Courier* has given shape—complexion (as writers of a more distant, graceful era might have said)—to the way I think and act and live. It has given me

space to evolve into someone I could only have imagined I might have become when I first sat down to edit this publication in 1986. It has given me room to learn how to care, and how to express that care publicly. It has given me a voice. It has helped me grow up.

Yet most remarkable of all during this period of growth has been the catalyst itself—the *Courier*. Colleagues hearing of my impending departure have asked not so much about my future as about the future of the magazine: what will happen to *Courier*? who will manage it next? Implicit in their questions are the acknowledgement of the work we do together and the recognition that it continues to evolve under the leadership of those who assume responsibility for it next. The work continues; new individuals stretch it, building on what has gone before. They lend their voices to the work, and the work, out of its own inexplicable power, strengthens their voices, transforming them into something other than they once were.

To continue this growth is perhaps the greatest reason for saying good-bye. What has provided growth for one will provide it now for another. There will be new energy, new creativity; and those who profit will be all of us, standing together, engaged, working fervently for a future in which the Park Service is as strong, as committed, as determined to grow in wisdom as each of us individually hopes we are.

During the past years I have been both parent and child in the development that is this publication. I have been acted upon by the magazine, nudged toward growth as much as any child, yet also urging it to grow as any good parent should. Now I stand like that good parent, knowing (and knowing optimistically) that the work remains, that it has its own road to travel and that it must be released to follow it. The magazine has roots, but also wings, and this will be the gift it passes on to the next individual who assumes its responsibility.



END

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